

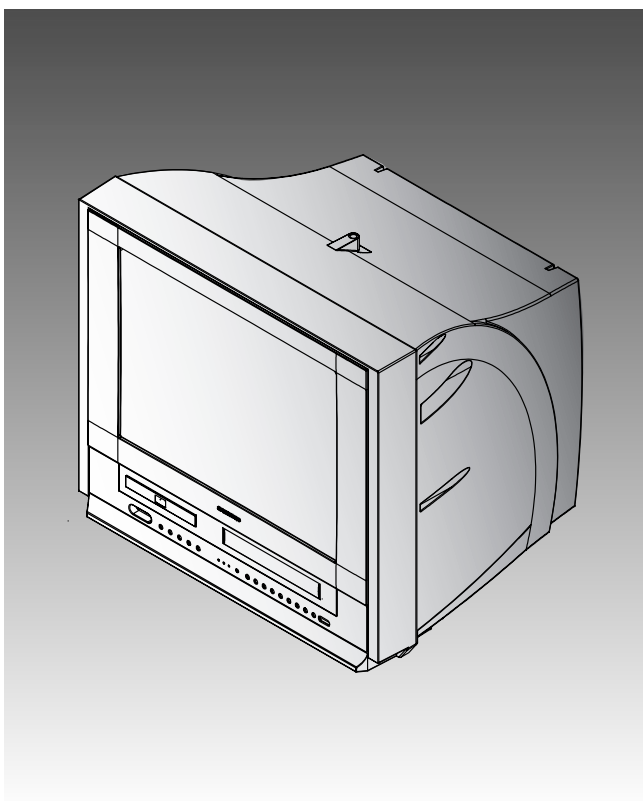
**SAMSUNG**

## DVD Television

Chassis : V18A  
Model: CFTD2083TX/SMS

# ***SERVICE*** Manual

### DVD Television Cassette Recorder



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# 1. Precautions

Follow these safety, servicing and ESD precautions to prevent damage and protect against potential hazards such as electrical shock and X-rays.

## 1-1 Safety Precautions

1. Be sure that all of the built-in protective devices are replaced. Restore any missing protective shields.
2. When reinstalling the chassis and its assemblies, be sure to restore all protective devices, including: nonmetallic control knobs and compartment covers.
3. Make sure that there are no cabinet openings through which people—particularly children—might insert fingers and contact dangerous voltages. Such openings include the spacing between the picture tube and the cabinet mask, excessively wide cabinet ventilation slots, and improperly fitted back covers.

If the measured resistance is less than 1.0 megohm or greater than 5.2 megohms, an abnormality exists that must be corrected before the unit is returned to the customer.

4. Leakage Current Hot Check (Figure 1-1):  
Warning: Do not use an isolation transformer during this test. Use a leakage-current tester or a metering system that complies with American National Standards Institute (ANIS C101.1, Leakage Current for Appliances), and Underwriters Laboratories (UL Publication UL1410, 59.7).
5. With the unit completely reassembled, plug the AC line cord directly into the power outlet. With the unit's AC switch first in the ON position and then OFF, measure the current between a known earth ground (metal water pipe, conduit, etc.) and all exposed metal parts, including: antennas, handle brackets, metal cabinets, screwheads and control shafts. The current measured should not exceed 0.5 milliamp. Reverse the power-plug prongs in the AC outlet and repeat the test.

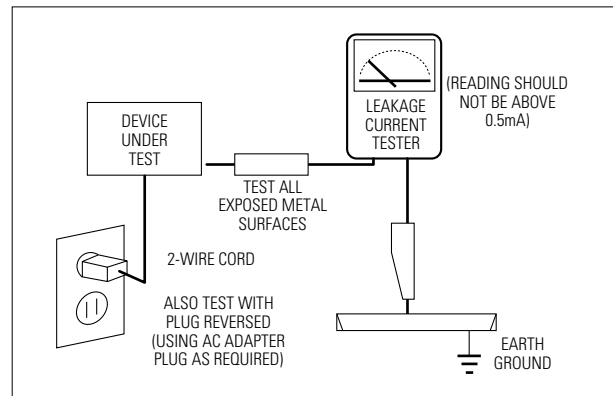




Fig. 1-1 AC Leakage Test

6. Antenna Cold Check:  
With the unit's AC plug disconnected from the AC source, connect an electrical jumper across the two AC prongs. Connect one lead of the ohmmeter to an AC prong. Connect the other lead to the coaxial connector.
7. X-ray Limits:  
The picture tube is especially designed to prohibit X-ray emissions. To ensure continued X-ray protection, replace the picture tube only with one that is the same type as the original. Carefully reinstall the picture tube shields and mounting hardware; these also provide X-ray protection.
8. High Voltage Limits:  
High voltage must be measured each time servicing is done on the B+, horizontal deflection or high voltage circuits. Correct operation of the X-ray protection circuits must be reconfirmed whenever they are serviced.  
(X-ray protection circuits also may be called "horizontal disable" or "hold-down".)

Heed the high voltage limits. These include the X-ray Protection Specifications Label, and the Product Safety and X-ray Warning Note on the service data schematic.

## 1-1 Safety Precautions (Continued)

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9. High voltage is maintained within specified limits by close-tolerance, safety-related components and adjustments. If the high voltage exceeds the specified limits, check each of the special components.
10. Design Alteration Warning:  
Never alter or add to the mechanical or electrical design of this unit. Example: Do not add auxiliary audio or video connectors. Such alterations might create a safety hazard. Also, any design changes or additions will void the manufacturer's warranty.
11. Hot Chassis Warning:  
Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord. If an isolation transformer is not used, these units may be safely serviced only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC source.  
  
To confirm that the AC power plug is inserted correctly, do the following: Using an AC voltmeter, measure the voltage between the chassis and a known earth ground. If the reading is greater than 1.0V, remove the AC power plug, reverse its polarity and reinsert. Re-measure the voltage between the chassis and ground.
12. Some TV chassis are designed to operate with 85 volts AC between chassis and ground, regardless of the AC plug polarity. These units can be safely serviced only if an isolation transformer inserted between the receiver and the power source.
13. Some TV chassis have a secondary ground system in addition to the main chassis ground. This secondary ground system is not isolated from the AC power line. The two ground systems are electrically separated by insulating material that must not be defeated or altered.
14. Components, parts and wiring that appear to have overheated or that are otherwise damaged should be replaced with parts that meet the original specifications. Always determine the cause of damage or overheating, and correct any potential hazards.
15. Observe the original lead dress, especially near the following areas: Antenna wiring, sharp edges, and especially the AC and high voltage power supplies. Always inspect for pinched, out-of-place, or frayed wiring. Do not change the spacing between components and the printed circuit board. Check the AC power cord for damage. Make sure that leads and components do not touch thermally hot parts.
16. Picture Tube Implosion Warning:  
The picture tube in this receiver employs "integral implosion" protection. To ensure continued implosion protection, make sure that the replacement picture tube is the same as the original.
17. Do not remove, install or handle the picture tube without first putting on shatterproof goggles equipped with side shields. Never handle the picture tube by its neck. Some "in-line" picture tubes are equipped with a permanently attached deflection yoke; do not try to remove such "permanently attached" yokes from the picture tube.
18. Product Safety Notice:  
Some electrical and mechanical parts have special safety-related characteristics which might not be obvious from visual inspection. These safety features and the protection they give might be lost if the replacement component differs from the original—even if the replacement is rated for higher voltage, wattage, etc.  
  
Components that are critical for safety are indicated in the circuit diagram by shading, (  ) or (  ).  
Use replacement components that have the same ratings, especially for flame resistance and dielectric strength specifications. A replacement part that does not have the same safety characteristics as the original might create shock, fire or other hazards.



## 1-2 Servicing Precautions

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Warning1: First read the "Safety Precautions" section of this manual. If some unforeseen circumstance creates a conflict between the servicing and safety precautions, always follow the safety precautions.

Warning2: An electrolytic capacitor installed with the wrong polarity might explode.

1. Servicing precautions are printed on the cabinet. Follow them.
2. Always unplug the unit's AC power cord from the AC power source before attempting to: (a) Remove or reinstall any component or assembly, (b) Disconnect an electrical plug or connector, (c) Connect a test component in parallel with an electrolytic capacitor.
3. Some components are raised above the printed circuit board for safety. An insulation tube or tape is sometimes used. The internal wiring is sometimes clamped to prevent contact with thermally hot components. Reinstall all such elements to their original position.
4. After servicing, always check that the screws, components and wiring have been correctly reinstalled. Make sure that the portion around the serviced part has not been damaged.
5. Check the insulation between the blades of the AC plug and accessible conductive parts (examples: metal panels, input terminals and earphone jacks).
6. Insulation Checking Procedure: Disconnect the power cord from the AC source and turn the power switch ON. Connect an insulation resistance meter (500V) to the blades of the AC plug.  
  
The insulation resistance between each blade of the AC plug and accessible conductive parts (see above) should be greater than 1 megohm.
7. Never defeat any of the B+ voltage interlocks. Do not apply AC power to the unit (or any of its assemblies) unless all solid-state heat sinks are correctly installed.
8. Always connect a test instrument's ground lead to the instrument chassis ground before connecting the positive lead; always remove the instrument's ground lead last.

### 1-3 Precautions for Electrostatically Sensitive Devices (ESDs)

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1. Some semiconductor ("solid state") devices are easily damaged by static electricity. Such components are called Electrostatically Sensitive Devices (ESDs); examples include integrated circuits and some field-effect transistors. The following techniques will reduce the occurrence of component damage caused by static electricity.
2. Immediately before handling any semiconductor components or assemblies, drain the electrostatic charge from your body by touching a known earth ground. Alternatively, wear a discharging wrist-strap device. (Be sure to remove it prior to applying power—this is an electric shock precaution.)
3. After removing an ESD-equipped assembly, place it on a conductive surface such as aluminum foil to prevent accumulation of electrostatic charge.
4. Do not use freon-propelled chemicals. These can generate electrical charges that damage ESDs.
5. Use only a grounded-tip soldering iron when soldering or unsoldering ESDs.
6. Use only an anti-static solder removal device. Many solder removal devices are not rated as "anti-static"; these can accumulate sufficient electrical charge to damage ESDs.
7. Do not remove a replacement ESD from its protective package until you are ready to install it. Most replacement ESDs are packaged with leads that are electrically shorted together by conductive foam, aluminum foil or other conductive materials.
8. Immediately before removing the protective material from the leads of a replacement ESD, touch the protective material to the chassis or circuit assembly into which the device will be installed.
9. Minimize body motions when handling unpackaged replacement ESDs. Motions such as brushing clothes together, or lifting a foot from a carpeted floor can generate enough static electricity to damage an ESD.

#### **CAUTION**

These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

## 1-4 Handling the optical pick-up

The laser diode in the optical pick up may suffer electrostatic breakdown because of potential static electricity from clothing and your body.

The following method is recommended.

- (1) Place a conductive sheet on the work bench (The black sheet used for wrapping repair parts.)
- (2) Place the set on the conductive sheet so that the chassis is grounded to the sheet.
- (3) Place your hands on the conductive sheet (This gives them the same ground as the sheet.)
- (4) Remove the optical pick up block
- (5) Perform work on top of the conductive sheet. Be careful not to let your clothes or any other static sources to touch the unit.

Be sure to put on a wrist strap grounded to the sheet.  
Be sure to lay a conductive sheet made of copper etc.  
Which is grounded to the table.

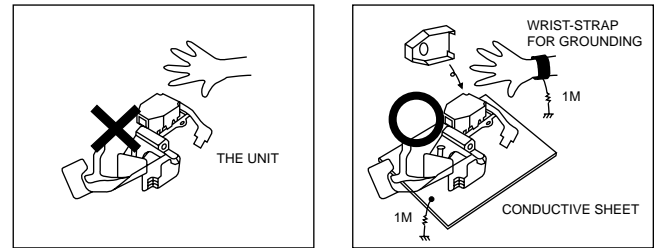


Fig.1-2

- (6) Short the short terminal on the PCB, which is inside the Pick-Up ASS'Y, before replacing the Pick-Up. (The short terminal is shorted when the Pick-Up Ass'y is being lifted or moved.)
- (7) After replacing the Pick-up, open the short terminal on the PCB.

## 1-5 Pick-up disassembly and reassembly

### 1-5-1 Disassembly

- 1) Remove the power code.
- 2) Disassemble the Deck-Assy.
- 3) Make solder land 2 points short on Pick-up.  
(See Fig. 1-3)
- 4) Disassembly the Pick-up.

### 1-5-2 Assembly

- 1) Replace the Pick-up.
- 2) Remove the soldering 2 points on Pick-up.
- 3) Reassemble the Deck-Assy.

**Note :** If the assembly and disassembly are not done in correct sequence, the Pick-up may be damaged.

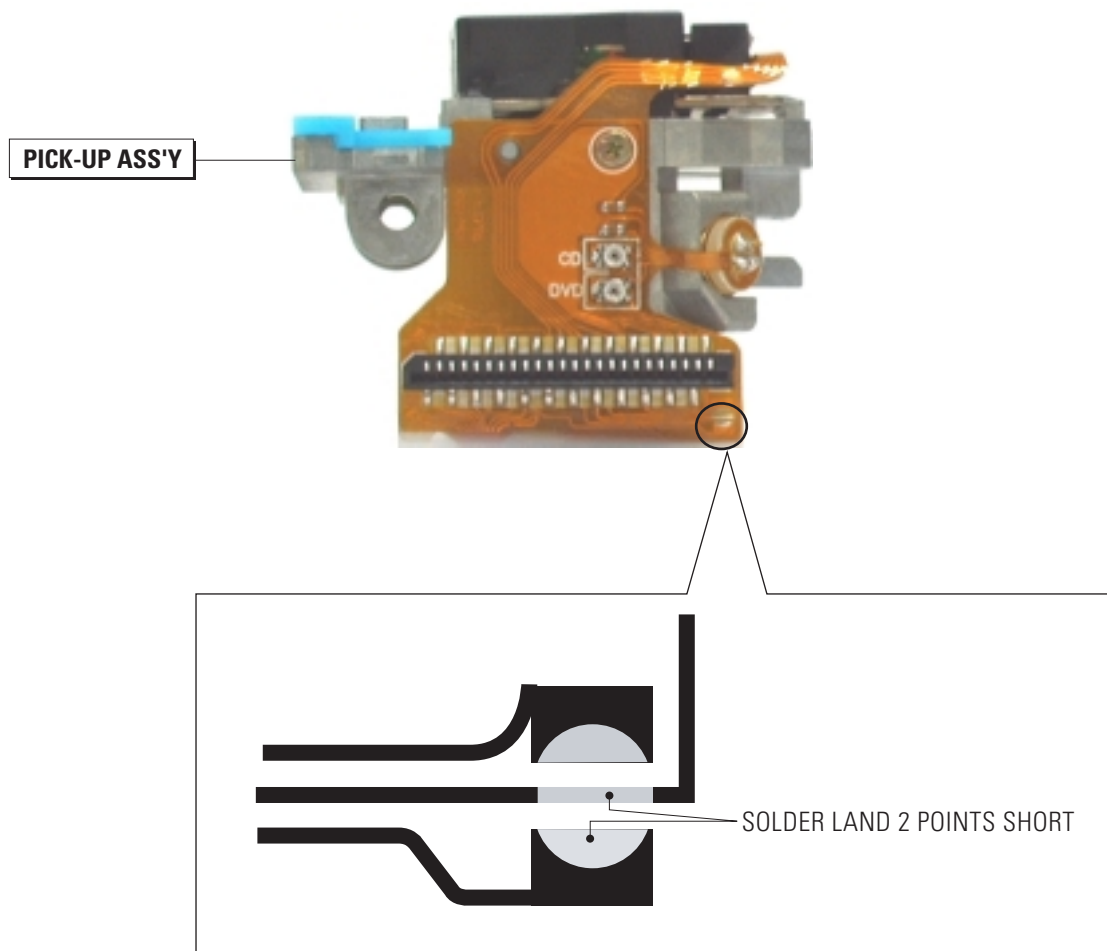


Fig. 1-3

## 2. Specifications

Model		CFTD2083T
Power Consumption		Specified on the rear side of TV (130W)
Screen Size		Specified on the rear side of TV (51Cm)
Dimmension(mm)		584 (W) x 492 (D) x 515 (H)
Weight		28.5 Kg
Tube		High Contrast Instant Receiving System
Tuning Range		VHF 2 ~ 13, Receiving System: NTSC- M
		UHF 14 ~ 69, CATV: CH1 ~ CH125
Antenna Input		VHF, UHF: 75Ω Unbalanced
Power Supply		110V, 60Hz
		Remote Control: DC 1.5V (two AA- size batteries)
Rectification Type		Insulation Switch Type
Sound Output		3W + 3W
Adjustments		Remocon Adjustment: Infrared rays system
		UHF/VHF Electronic Tuner Fine Tuning: Electronic
		Electronic Function Adjustment
Allowable Operating Temperature		+5℃ ~ +35℃
Allowable Operating Humidity		10% ~ 75%
Disc	DVD (Digital Versatile Disc)	Linear Velocity: 3.49m/sec
		Maximum Playback Time: 135 minutes (Based on a single- sided and a single layer recording disc)
	CD: 12 <sub>cm</sub> (Compact Disc)	Linear Velocity: 1.2 ~ 1.4m/sec
		Maximum Playback Time: 74 minutes
	CD: 8 <sub>cm</sub> (Compact Disc)	Linear Velocity: 1.2 ~ 1.4m/sec
		Maximum Playback Time: 20 minutes
	Video- CD: 12 <sub>cm</sub>	Linear Velocity: 1.2 ~ 1.4m/sec
Maximum Playback Time: 74 minutes (Video + Audio)		
Recording System		Rotary,azimuth four-head helical scanning system Luminance : FM azimuth recording Color signal : converted subcarrier phase shift recording
Audio Track		1 track
Tape Width		12.7 mm (1/2 inch)
Record Speed		
SP		33.35 mm/s (1.31 in./s)
SLP		11.12 mm/s (0.43 in./s)
Record/Playback Time		480 min. with -160 used in SLP mode
FF/Rew Time		Less than 100 sec. with T-120
Heads		Video : 4 rotary heads Audio/Control : 1 stationary head, 2 rotary heads Erase : 1 full track erase 1 audio track erase

# MEMO

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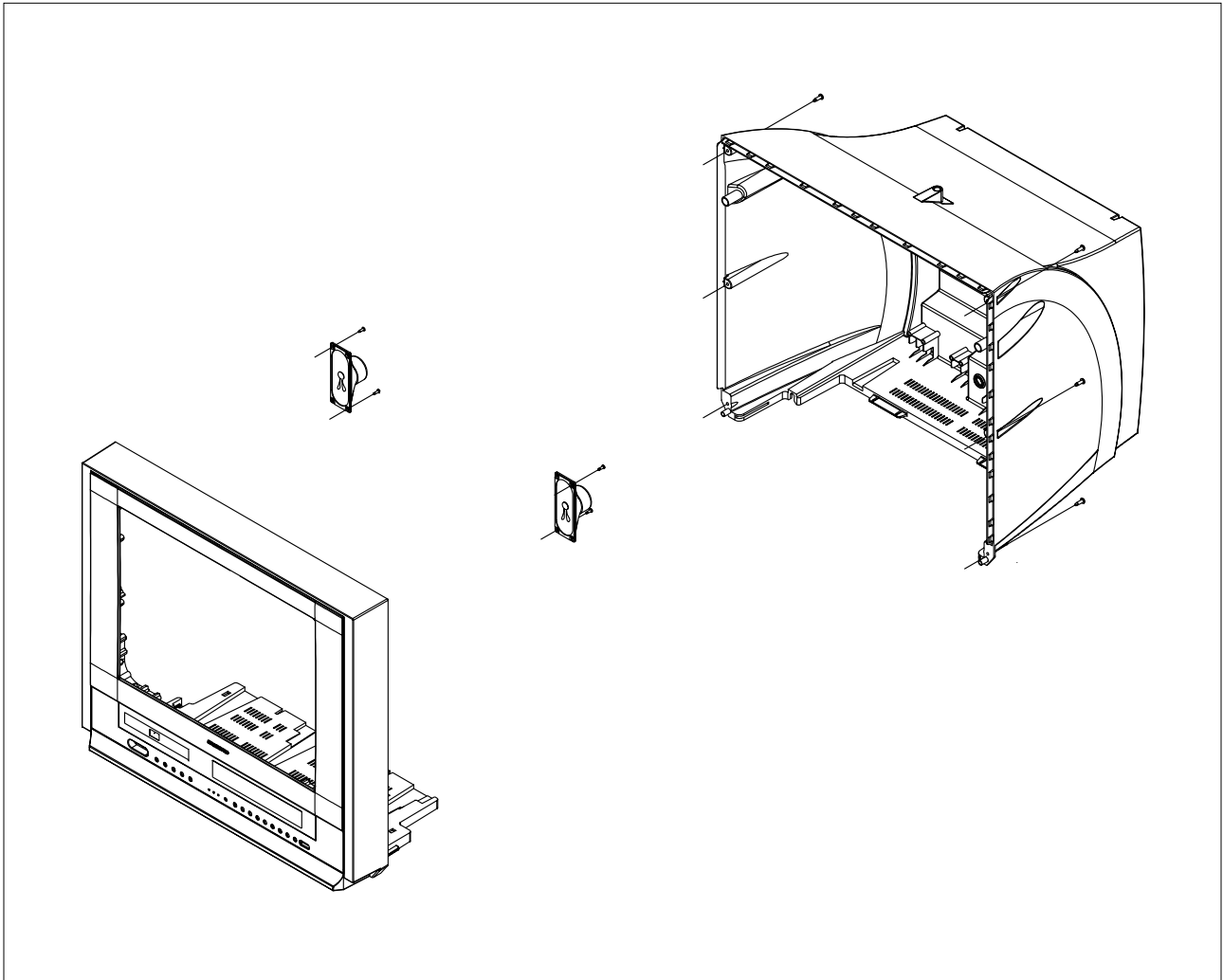
## 3. Disassembly and Reassembly

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### 3-1 Disassembly

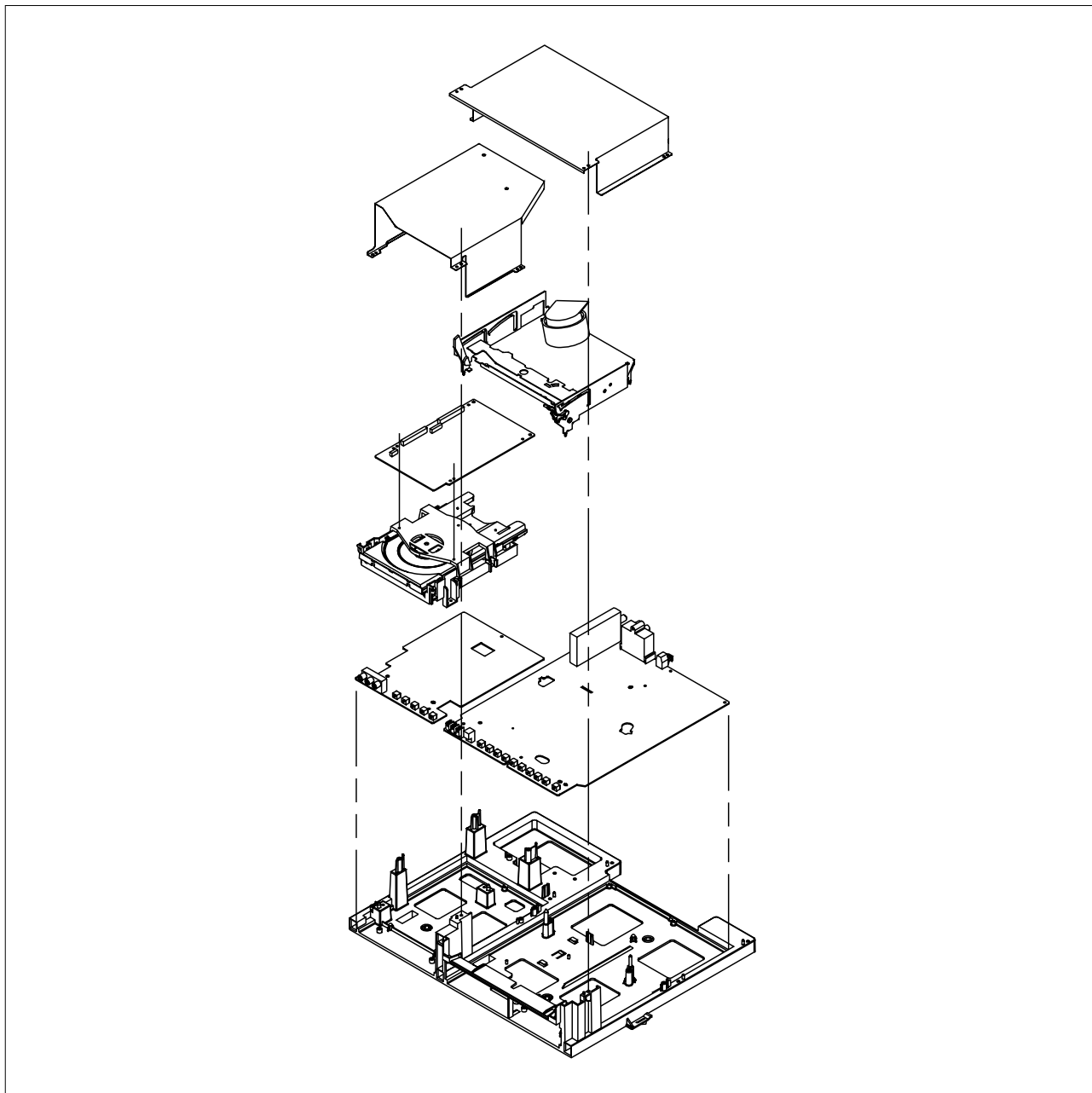
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#### 3-1-1 Back Cover Removal



1. Remove the screws located on the side of the back cover.

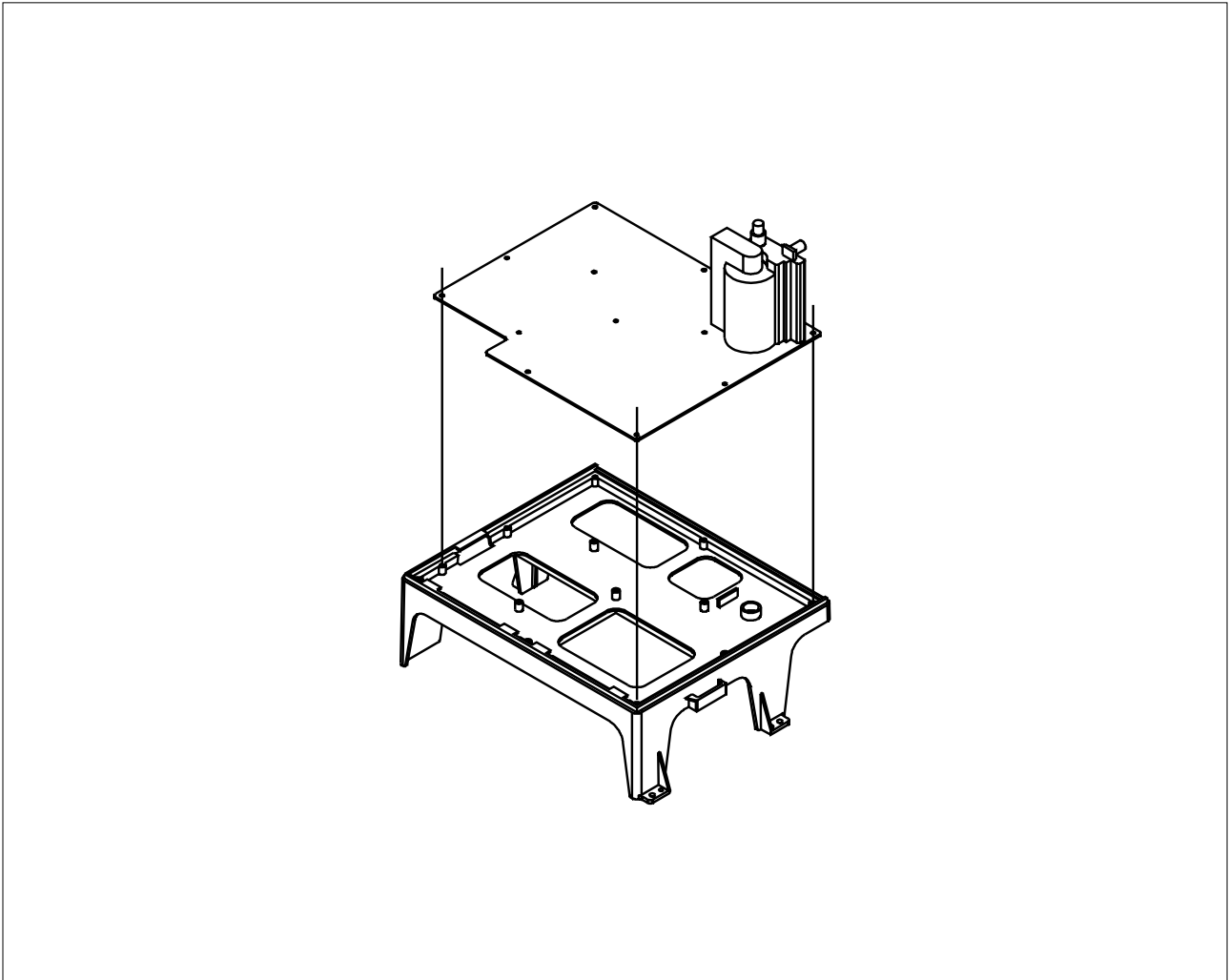
### 3-1-2 Main Assembly Removal



1. Release four connectors between DVD Interface and Main PCB Assembly.
2. Remove screws from the DVD and VCR shield case.
3. Remove shield case, then take out DVD PCB Assembly.
4. Remove screws from the DVD and VCR Deck.
5. Lift up the DVD and VCR Deck, then Remove screws from Main and DVD Interface PCB Assembly.
6. Remove the Main and DVD Interface PCB Assembly.



### 3-1-3 Power Assembly Removal



1. Release two connectors between Power and Main PCB Assembly.
2. Remove screws from the Power Assembly.

## 3-2 VCR Deck Parts Locations

### 3-2-1 Top View

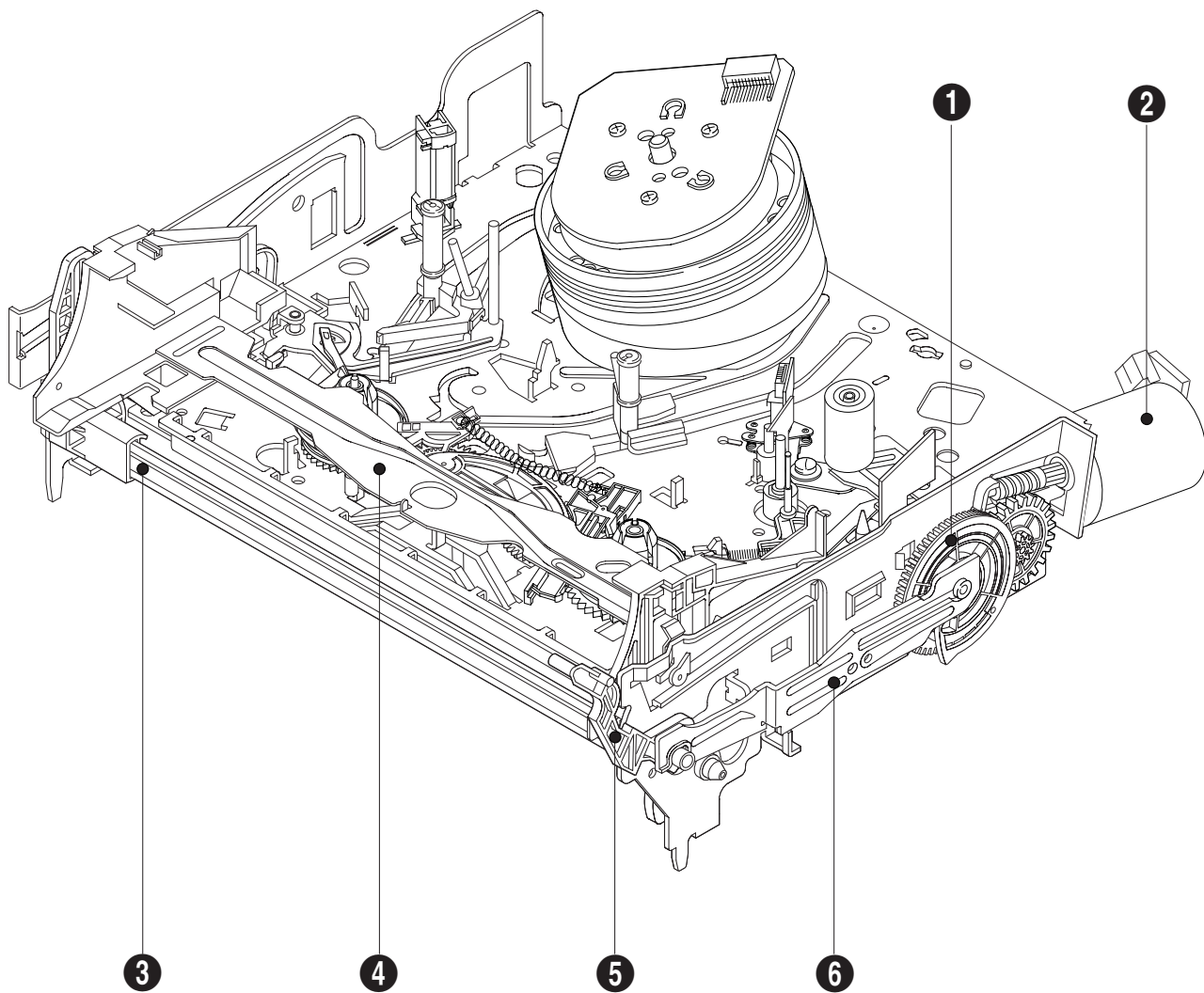


Fig. 3-1 Top parts Location-1

- ❶ GEAR FL CAM
- ❷ MOTOR LOADING ASS'Y
- ❸ LEVER FL ARM ASS'Y
- ❹ HOLDER FL CASSETTE ASS'Y
- ❺ LEVER FL DOOR
- ❻ SLIDER FL DRIVE

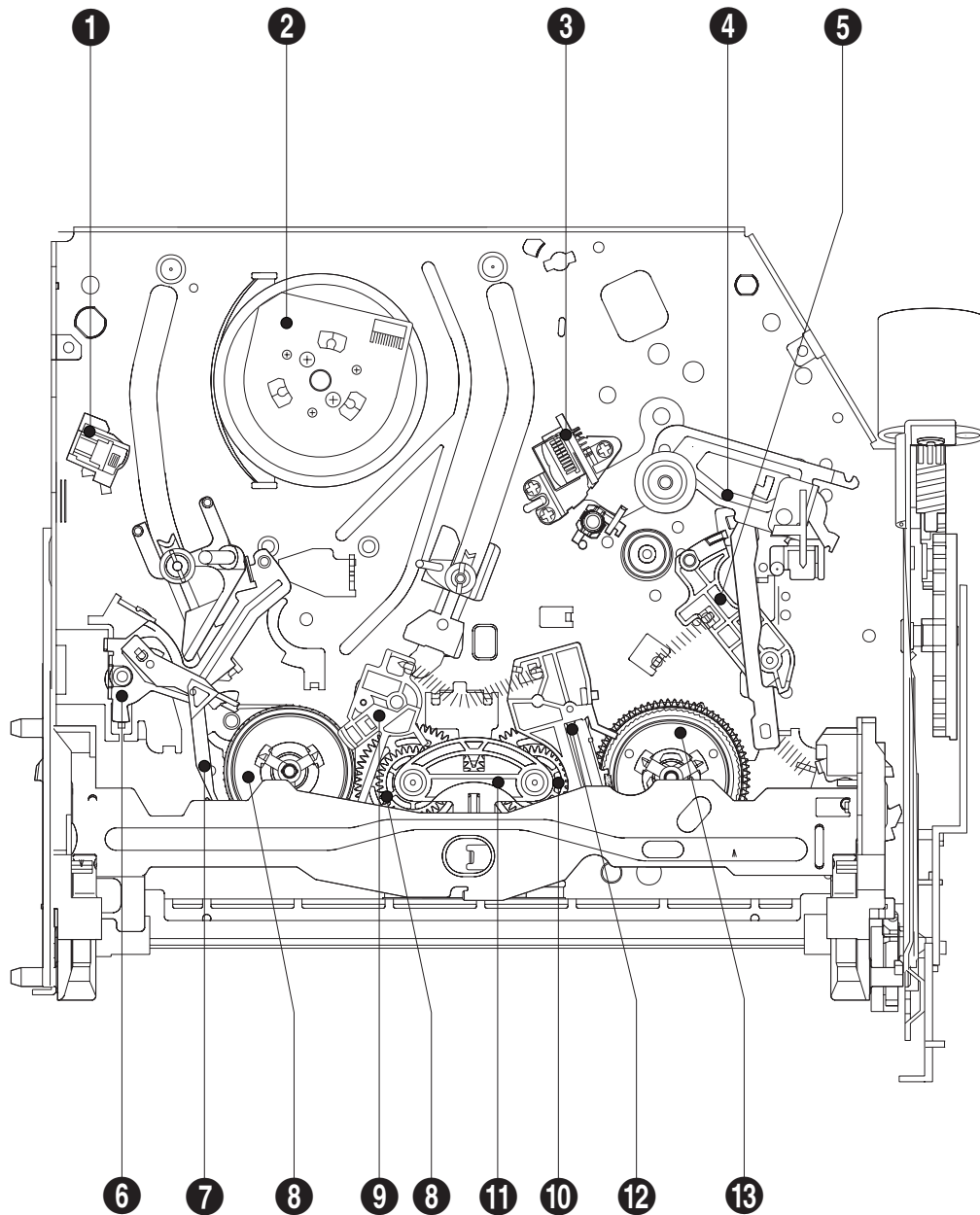


Fig. 3-2 Top Parts Location-2

- |                          |                       |
|--------------------------|-----------------------|
| ① FE HEAD                | ⑧ DISK S REEL         |
| ② CYLINDER ASS'Y         | ⑨ LEVER S BRAKE ASS'Y |
| ③ ACE HEAD ASS'Y         | ⑩ GEAR IDLE           |
| ④ LEVER UNIT PINCH ASS'Y | ⑪ LEVER IDLE          |
| ⑤ LEVER #9 GUIDE ASS'Y   | ⑫ LEVER T BRAKE ASS'Y |
| ⑥ LEVER TENSION ASS'Y    | ⑬ DISK T REEL         |
| ⑦ BAND BRAKE ASS'Y       |                       |

### 3-2-2Bottom View

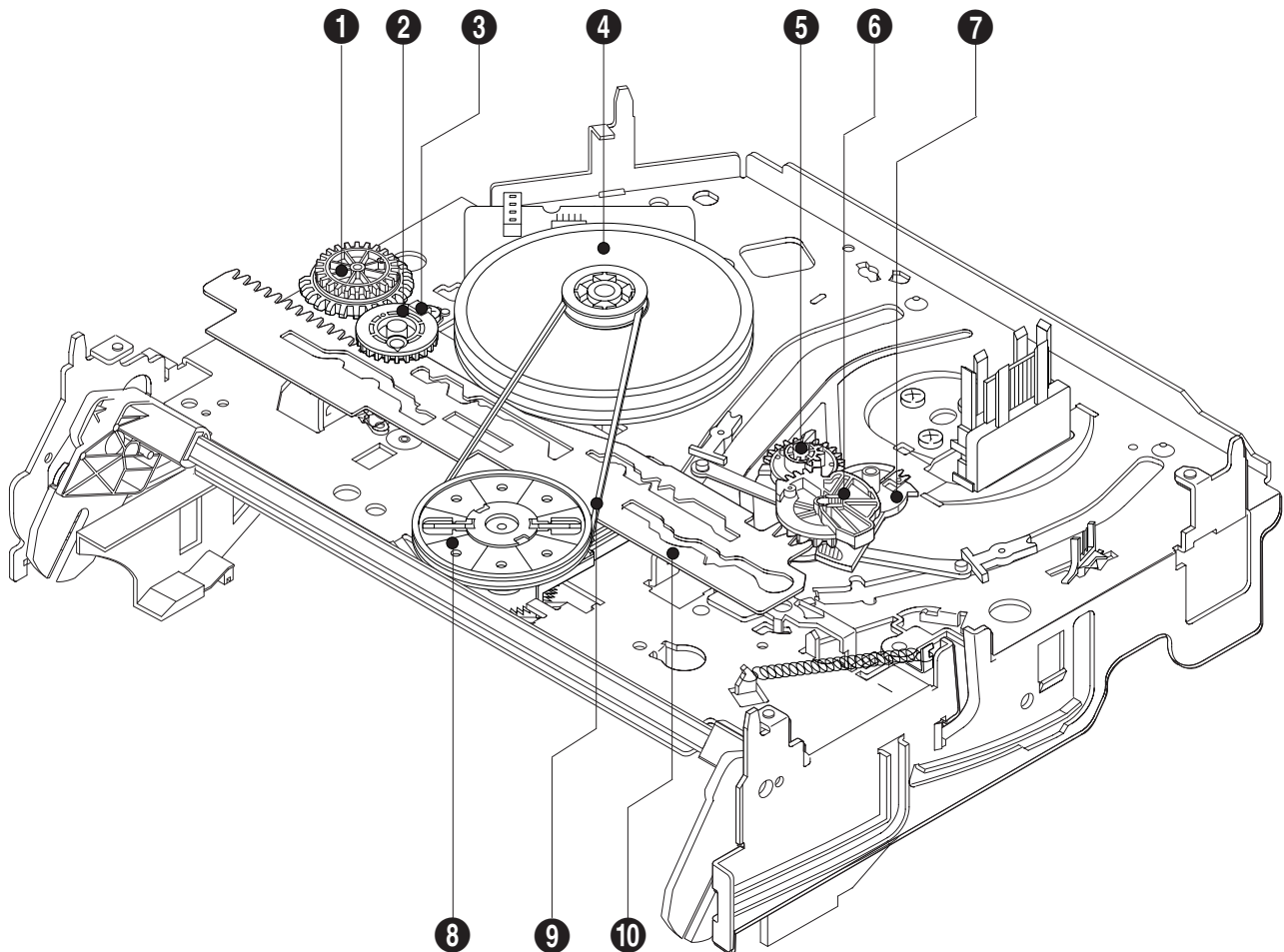


Fig. 3-3 Bottom Parts Location

- ❶ GEAR JOINT 1
- ❷ GEAR JOINT 2
- ❸ BRACKET GEAR
- ❹ MOTOR CAPSTAN ASS'Y
- ❺ LEVER T LOAD ASS'Y
- ❻ GEAR LOADING DRIVE
- ❼ LEVER S LOAD ASS'Y
- ❽ HOLDER CLUTCH ASS'Y
- ❾ BELT PULLEY
- ❿ SLIDER CAM

## 3-3 Main Deck

### 3-3-1 Lever FL Door Removal

- 1) Push the Holder FL Cassette Ass'y ❶ about 20mm in the direction of arrow "A".
- 2) Rotate the Lever FL Door ❷ in the direction of arrow "B".
- 3) Release the Hook ❸ and Remove the Lever FL Door ❷ in the direction of arrow "C".

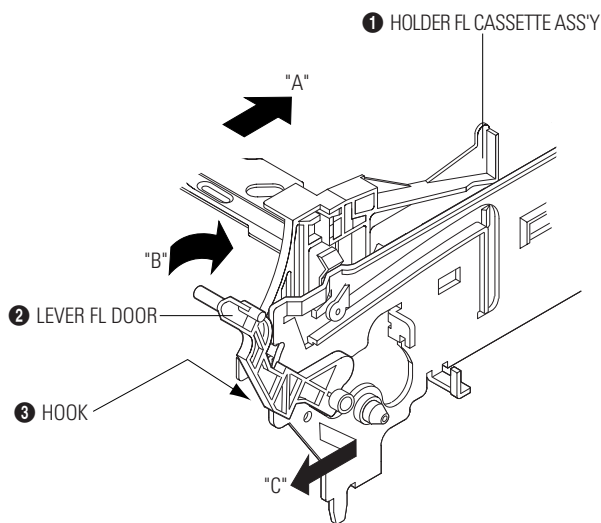


Fig. 3-4 Lever FL Door Removal

### 3-3-2 Holder FL Cassette Ass'y Removal

- 1) Pull the Holder FL Cassette Ass'y ❶ to the eject position.
- 2) Pull the Holder FL Cassette Ass'y ❶ as grasping the Holder FL Cassette Ass'y ❶ and Lever FL Cassette-R ❷ in the same time to release hooking from Main Base until the Boss [A] of Holder FL Cassette Ass'y ❶ is taken out from the Rail [B].
- 3) Lift the Holder FL Cassette Ass'y ❶, in this time, you have to grasp the Lever FL Cassette-R ❷ continuously until the Holder FL Cassette Ass'y ❶ is taken out completely.

**Note :** Be sure to insert Lever FL Cassette-R ❷ in the direction of "A" to prevent separation and breakage of the Lever FL Cassette-R ❷ at disassembling and reassembling.

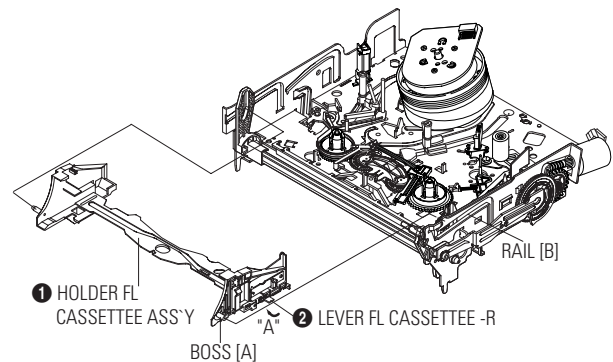


Fig. 3-5 Holder FL Cassette Ass'y Removal

### 3-3-3 Slider FL Drive, Gear FL Cam Removal

- 1) Pull the Slider FL Drive ❶ to the front direction.
- 2) Remove the Slider FL Drive ❶ in the direction of arrow. (Refer to Fig. 3-6)
- 3) Remove the Gear FL cam ❷.

**Note :** When reinstalling be sure to reassemble Slider FL drive ❶ after you insert the Boss of Lever FL ARM-R in Groove of Slider FL drive ❶.

**Assembly :** Align the Gear FL Cam ❶ with the Gear worm wheel Post as shown drawing. (Refer to Timing point)

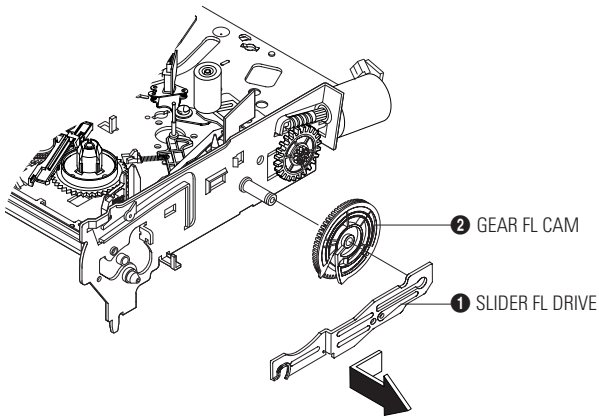


Fig. 3-6 Slider FL Drive Removal

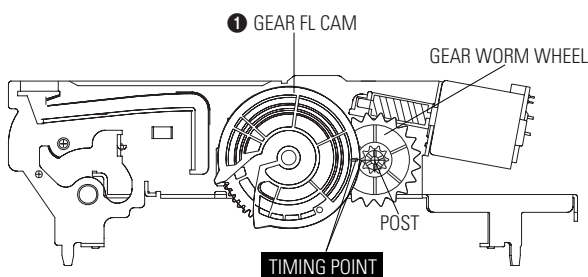


Fig. 3-7 Gear FL Cam, Gear Worm

### 3-3-4 Lever FL Arm Ass'y Removal

- 1) Push the hole "A" in the direction of arrow "B" use the pin.(about Dia. 2.5)
- 2) Pull out the Lever FL Arm Ass'y ❶ from the Boss of Main Base.
- 3) Remove the Lever FL Arm Ass'y ❶ in the direction of arrow "C".

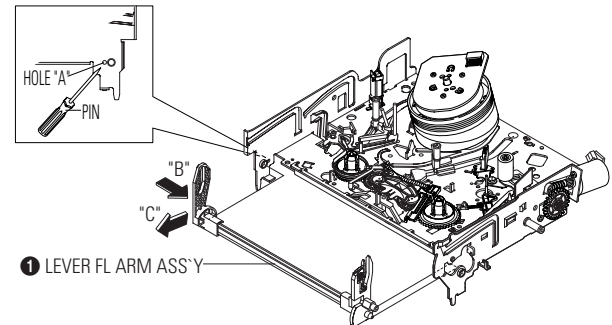


Fig. 3-8 Lever FL Arm Ass'y Removal

### 3-3-5 Gear Worm Wheel Removal

- 1) Remove the Gear Worm wheel ❶.

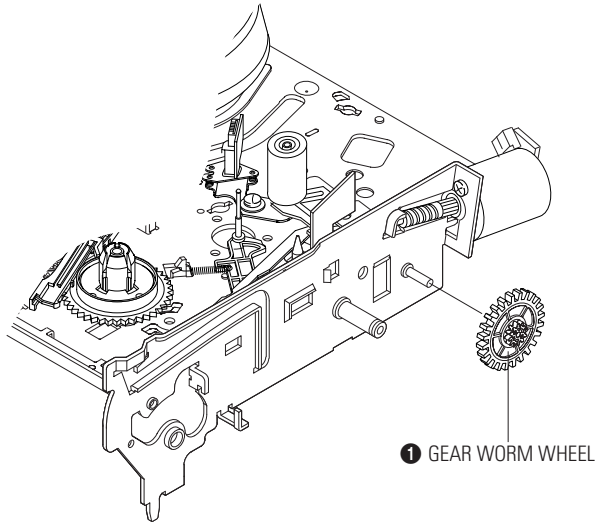


Fig. 3-9 Gear Worm Wheel Removal

### 3-3-6 Motor Loading Ass'y Removal

- 1) Remove the screw ❶.
- 2) Remove the Motor Loading Ass'y ❷.

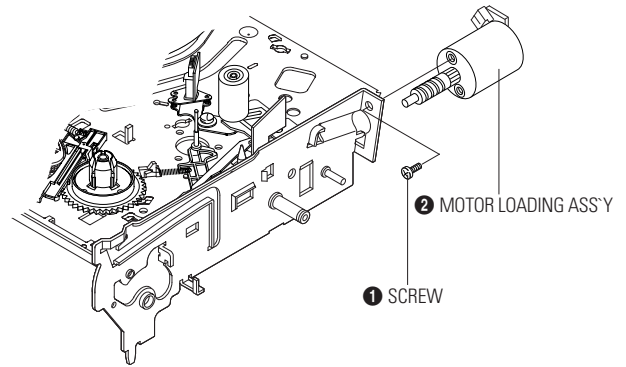


Fig. 3-10 Motor Loading Ass'y Removal

### 3-3-7 Bracket Gear, Gear Joint 2, 1 Removal

- 1) Remove the SCREW ❶.
- 2) Remove the Bracket Gear ❷.
- 3) Remove the Gear Joint 2 ❸.
- 4) Remove the Gear Joint 1 ❹.

#### Assembly :

- 1) Be sure to align dot mark of Gear Joint 1 ❶ with dot mark of Gear Joint 2 ❷ as shown Fig 3-12.  
(Refer to Timing point1)
- 2) Confirm the Timing Point 2 of the Gear Joint 2 ❷ and Slider Cam ❸.

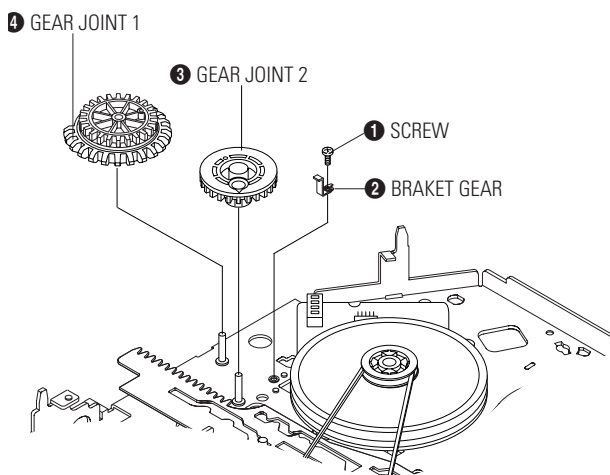


Fig. 3-11 Bracket Gear, Gear Joint 1,2 Removal

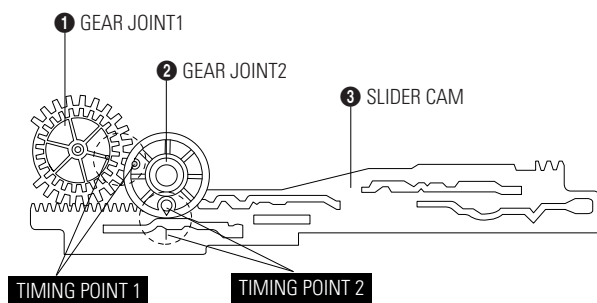


Fig. 3-12 Gear Joint 1,2 Assembly

### 3-3-8 Gear Loading Drive, Slider Cam, Lever Load S, T Ass'y Removal

- 1) Remove the Belt Pulley. (Refer to Fig. 3-30)
- 2) Remove the Gear Loading Drive ❶ after releasing Hook [A] in the direction arrow as shown in detail drawing.
- 3) Remove the Slider Cam ❷.
- 4) Remove the Lever Load ❸, Link Load ❹ & Lever Load ❺, Link Load ❻.

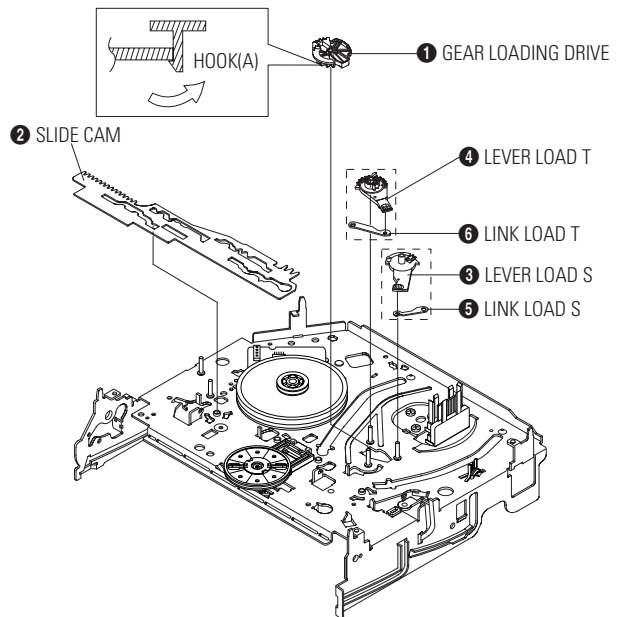


Fig. 3-13 Gear Loading Drive, Slider Cam, Lever T, S Load Ass'y Removal



### 3-3-9 Gear Loading Drive, Slider Cam, Lever Load S, T Ass'y Assembly

- 1) When reinstalling, be sure to align dot of Lever Load T Ass'y ❶ with dot of Lever Load S Ass'y ❷ as shown in drawing, (Refer to Timing Point 1).
- 2) Insert the Pin A,B,C,D into the Slider Cam ❸ hole,
- 3) Be sure to align dot of Lever Load T ❶ and dot of Gear Loading Drive ❹, (Refer to Timing Point 2).
- 4) Aline dot of Gear Loading drive ❹ with mark of Slider Cam ❸ as shown in drawing(Refer to Timing Point 3).

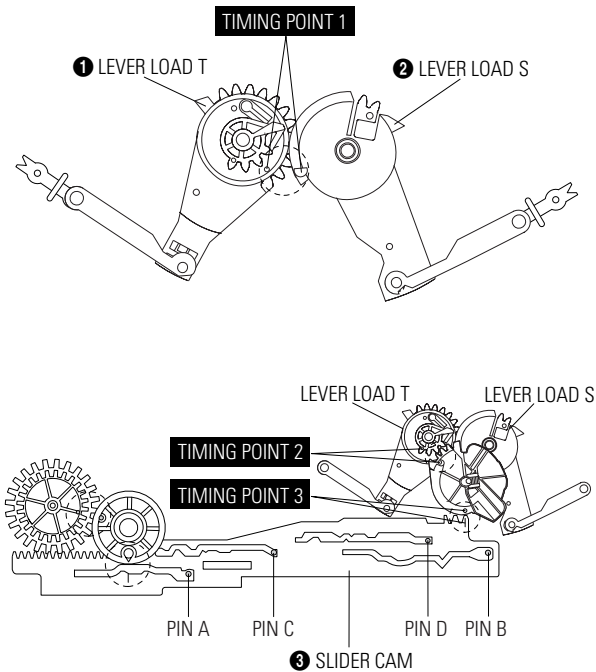


Fig. 3-14 Gear Loading Drive, Slider Cam, Lever Load S, T Ass'y Assembly

### 3-3-10 Lever Pinch Drive, Lever Tension Drive Removal

- 1) Remove the Lever Pinch Drive ❶, Lever Tension Drive ❷.

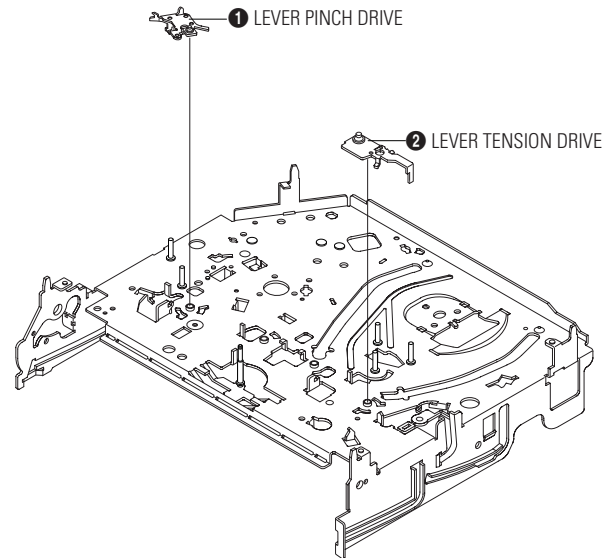


Fig. 3-15 Lever Pinch Drive, Lever Tension Drive Removal

### 3-3-11 Lever Tension Ass'y, Band Brake Ass'y Removal

- 1) Remove the Lever Brake S Ass'y (Refer to Fig 3-17).
- 2) Remove the Spring Tension Lever ❶.
- 3) Rotate stopper of Main Base in the direction of arrow "A".
- 4) Lift the Lever Tension Ass'y ❷ & Band brake Ass'y ❸.

**Note :**

- 1) When replacing the Lever Tension Ass'y ❷, be sure to apply Grease on the post,
- 2) Take care not to touch stain on the felt side, and not to be folded and broken Band brake Ass'y
- 3) After Lever Tension Ass'y seated, Rotate stopper of Main Base to the Mark[B].

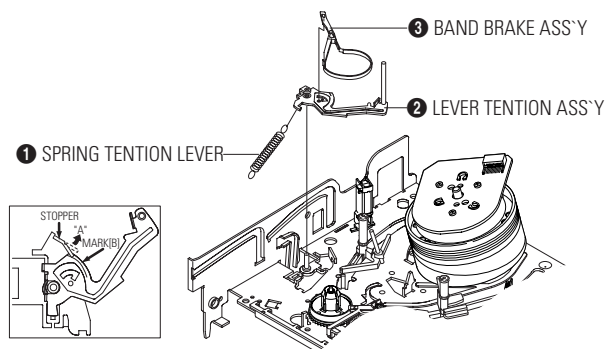


Fig. 3-16 Lever Tension Ass'y,  
Band Brake Ass'y Removal

### 3-3-12 Lever Brake S, T Ass'y Removal

- 1) Release the Hook [A] and the Hook [B], [C] in the direction of arrow as shown in Fig 3-17.
- 2) Lift the Lever S, T Brake Ass'y ❶, ❷ with spring brake ❸.

**Assembly :**

- 1) Assembly the Lever S Brake Ass'y ❶ on the Main Base.
- 2) Assembly the Lever T Brake Ass'y ❷ with spring brake ❸.

**Note :** Take extreme care not to be folded and transformed Spring Brake at removing or re-installing.

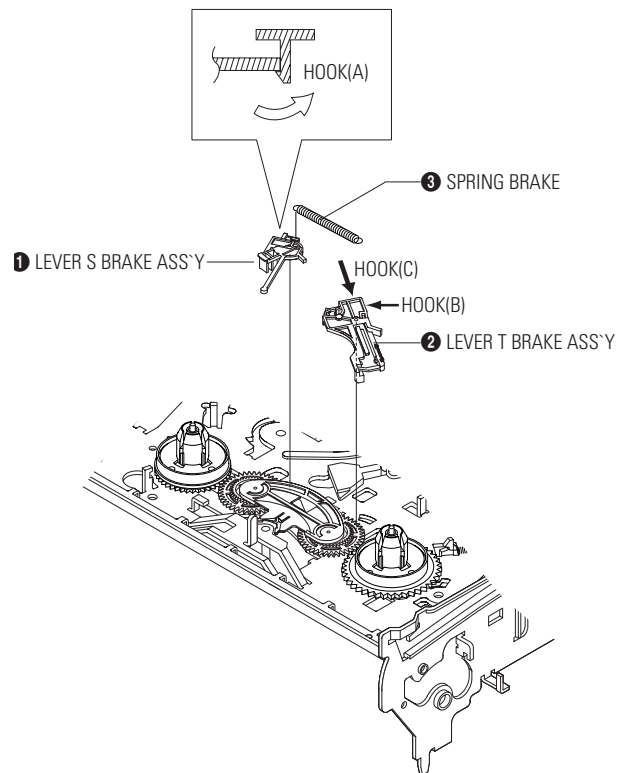


Fig. 3-17 Lever Brake S, T Ass'y Removal

### 3-3-13 Gear Idle Ass'y Removal

- 1) Push the Lever Idle ❶ in the direction of arrow "A", "B".
- 2) Lift the Lever Idle ❶.

#### Assembly :

- 1) Apply oil in two Bosses of Lever Idle ❶.
- 2) Assemble the Gear Idle ❷ with the Lever Idle ❶.

**Note :** When replacing the Gear Idle ❷, be sure to add oil in the boss of Lever Idle ❶.

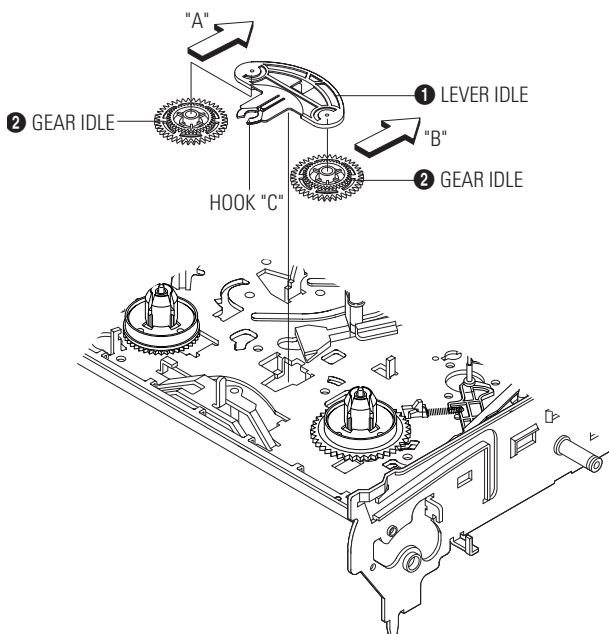


Fig. 3-18 Gear Idle Ass'y Removal

### 3-3-14 Disk S, T Reel Removal

- 1) Lift the Disk S, T Reel ❶, ❷.

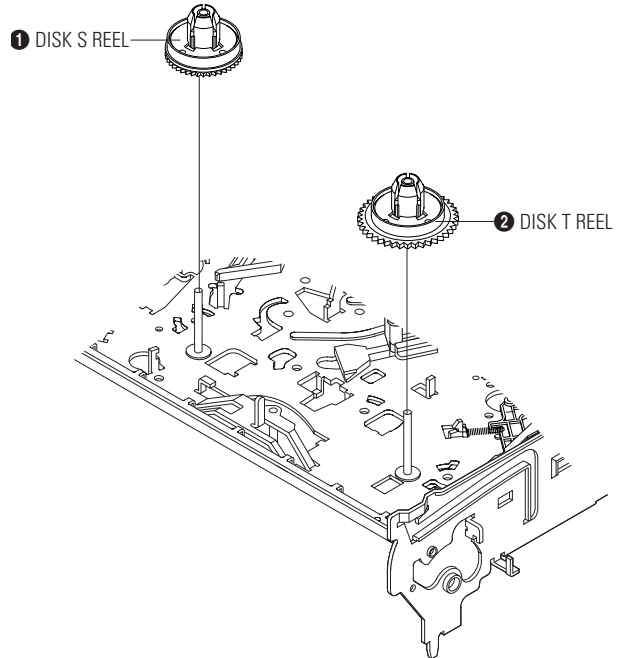


Fig. 3-19 Disk S, T Reel Removal

### 3-3-15 Holder Clutch Ass'y Removal

- 1) Remove the Washer Slit ❶.
- 2) Lift the Holder Clutch Ass'y ❷.

**Note :** When you reinstall Holder Clutch Ass'y

- 1) Check the condition of spring as shown in detail A.
- 2) Don't push Holder Clutch Ass'y down with excessive force Just insert Holder Clutch Ass'y into post center with dead force and Rotate it smoothly.  
Be sure to confirm that spring is in the slit of Gear Center Ass'y as shown in detail B.

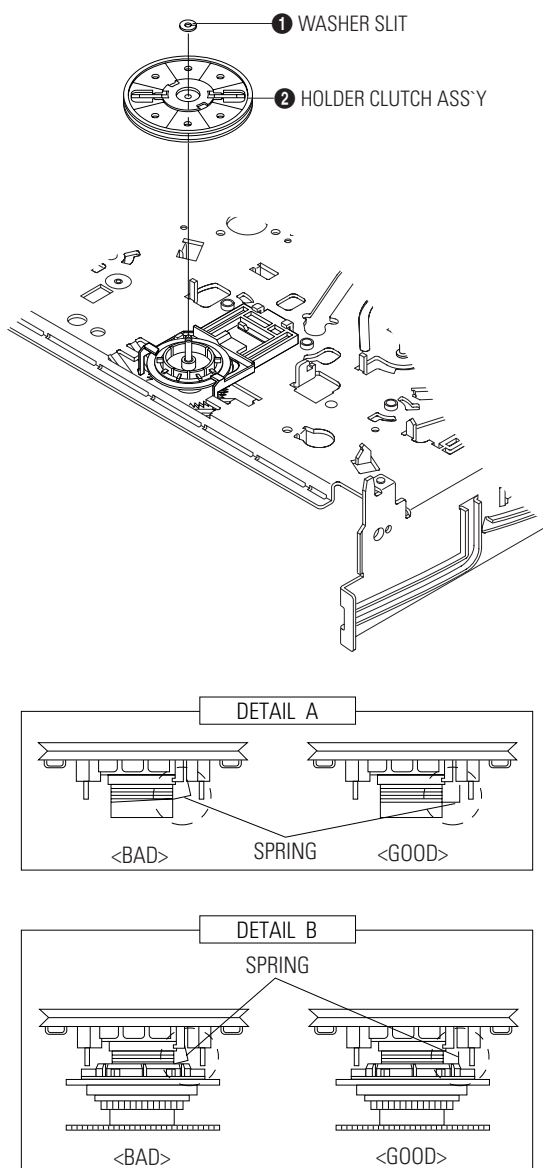


Fig. 3-20 Holder Clutch Ass'y Removal

### 3-3-16 Lever Up Down Ass'y, Gear Center Ass'y Removal

- 1) Remove the 2 hooks in the direction of arrow as shown Fig. 3-21 and lift the Lever Up Down Ass'y ❶.
- 2) Lift the Gear Center Ass'y ❷.

**Assembly :**

- 1) Insert the Lever Up Down Ass'y ❶ in the rectangular holes on Main Base as shown in Fig 3-22.
- 2) Lift the Lever Up Down Ass'y ❶ about 35°.  
(Refer to Fig 3-22)
- 3) Insert Ring of the Gear Center Ass'y ❷ in the Guide of the Lever Up Down Ass'y ❶.
- 4) Insert the Gear Center Ass'y ❷ in the post on Main Base.
- 5) Push down the Lever Up Down Ass'y ❶ for locking of the Hook.

**Note :**

- 1) Take care not to separate and sentence does not mark sense.
- 2) Be sure to confirm that Ring of the Gear Center Ass'y ❷ is in the Guide of the Lever Up Down Ass'y ❶ after finishing assembly of Lever Up Down Ass'y ❶ and Gear Center Ass'y ❷.

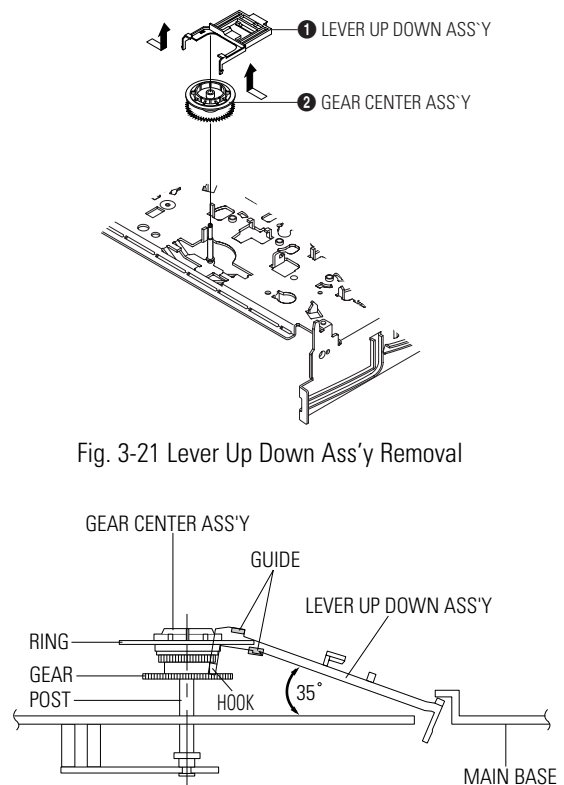


Fig. 3-21 Lever Up Down Ass'y Removal

Fig. 3-22 Lever Up Down Ass'y Removal

### 3-3-17 Guide Cassette Door Removal

- 1) Lift the Hook [A].
- 2) Rotate the Guide Cassette Door ❶ in the direction of arrow.

**Note :** After reinstalling the Guide Cassette Door ❶ sure the Hook [A].

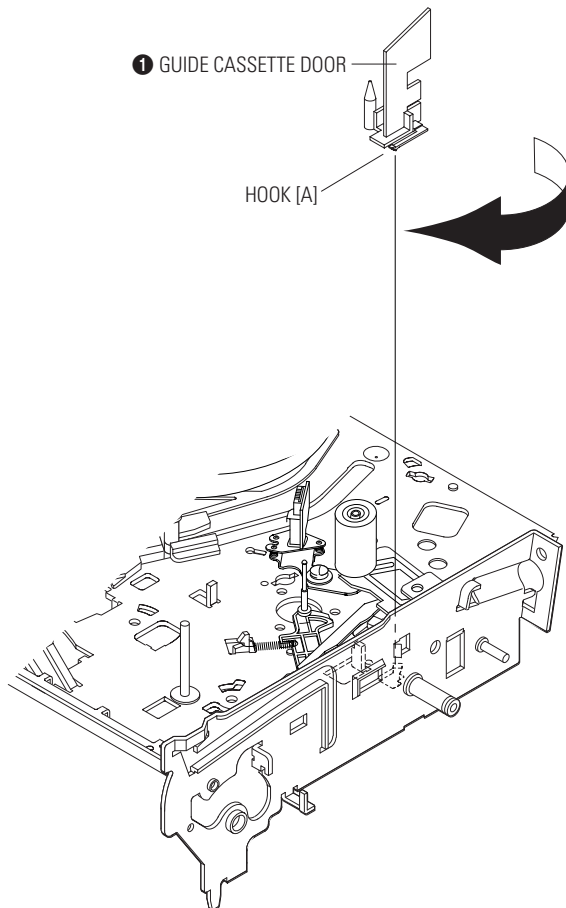


Fig. 3-23 Guide Cassette Door Removal

### 3-3-18 Lever Unit Pinch Ass'y, Plate Joint, Spring Pinch Drive Removal

- 1) Lift the Unit Pinch Ass'y ❶.
- 2) Remove the Plate Joint ❷ from Lever Pinch Drive.
- 3) Remove the Spring Pinch Drive ❸.

**Note :**

- 1) Take extreme care not to touch the grease on the Roller Pinch.
- 2) When reinstalling, be sure to apply grease on the post pinch roller.

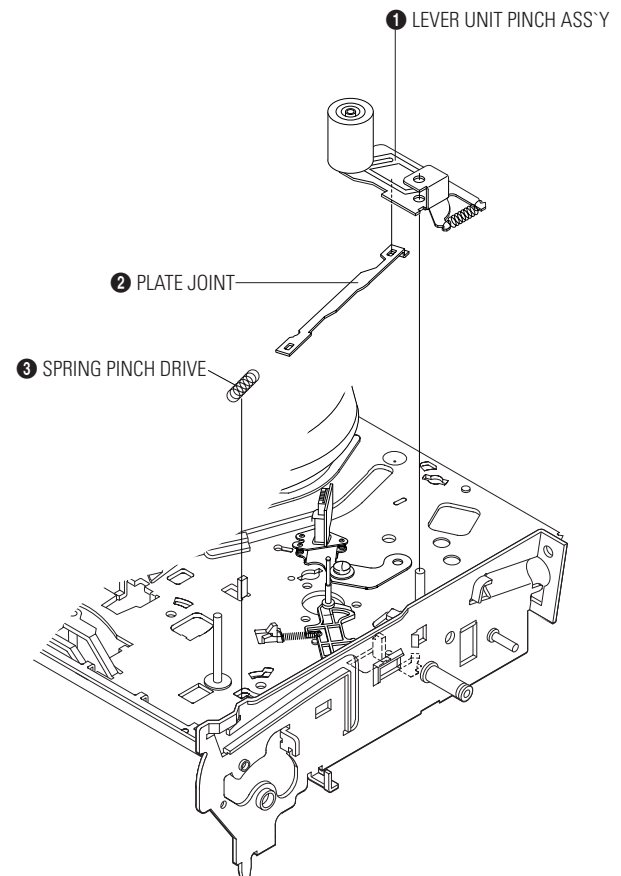


Fig. 3-24 Lever Unit Pinch Ass'y, Plate Joint, Spring Pinch Drive Removal

### 3-3-19 Lever #9 Guide Ass'y Removal

- 1) Remove the Spring #9 Guide ❶.
- 2) Lift the Spring #9 Guide Ass'y ❷ in the direction of arrow "A".

**Note :**

- 1) Take extreme care not to get grease on the tape Guide Post.
- 2) After reinstalling, check the bottom side of the Post #9 Guide to the top side of Main Base.

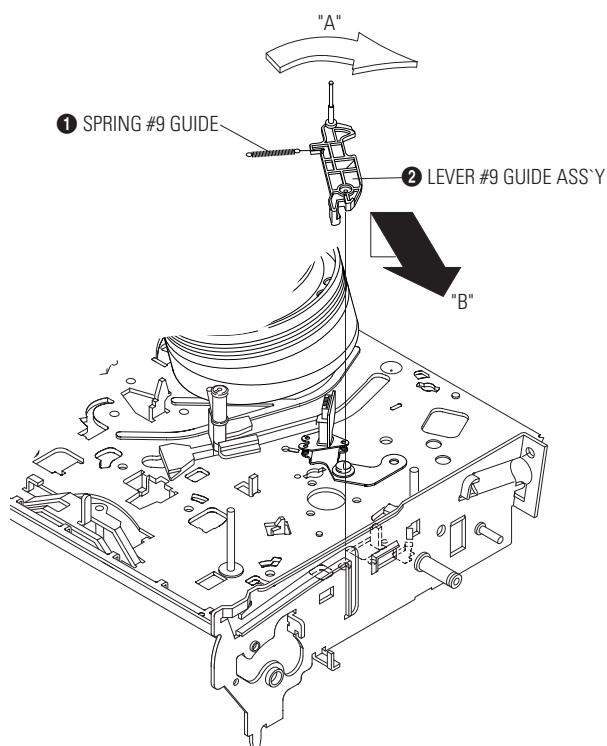


Fig. 3-25 Lever #9 Guide Ass'y Removal

### 3-3-20 FE Head Removal

- 1) Remove the screw ❶.
- 2) Lift the FE Head ❷.

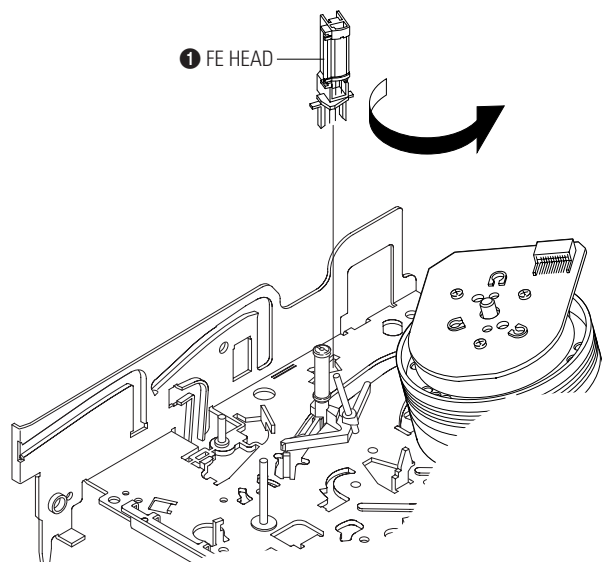


Fig. 3-26 FE Head Removal

### 3-3-21 ACE Head Removal

- 1) Pull out the FPC from connector of ACE Head Ass'y ❷.
- 2) Remove the screw ❶.
- 3) Lift the ACE Head Ass'y ❷.

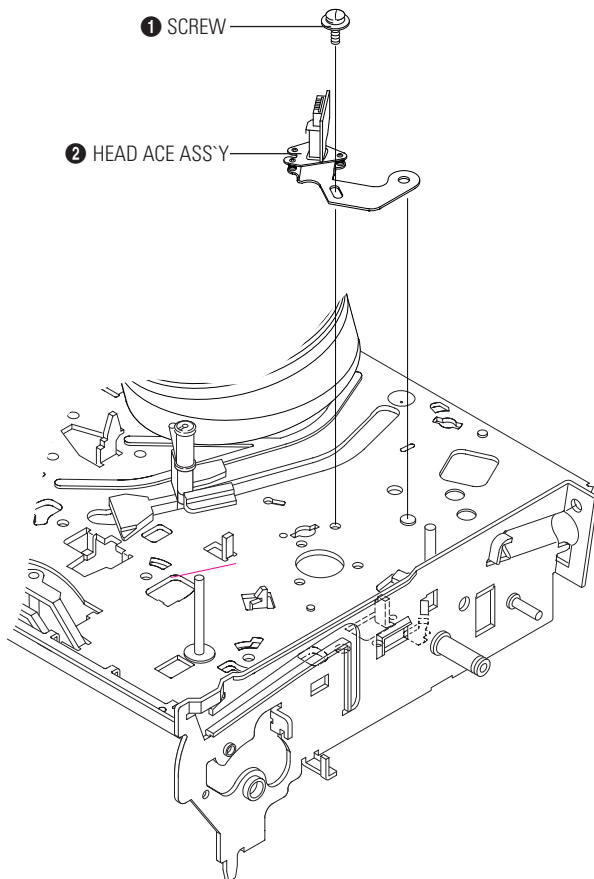


Fig. 3-27 ACE Head Removal

### 3-3-22 Slider S, T Ass'y Removal

- 1) Move the Slider S, T Ass'y ❶, ❷ to slot, and then lift it to remove. (Refer to arrow)

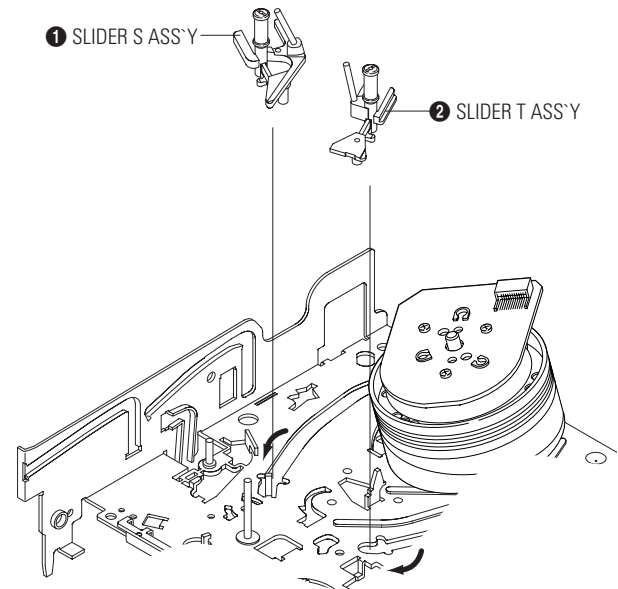


Fig. 3-28 Slider S, T Ass'y Removal

### 3-3-23 Plate Ground Deck, Cylinder Ass'y Removal

- 1) Remove the 3 Screws ❶.
- 2) Lift the Plate Ground Deck ❷.
- 3) Lift the Cylinder Ass'y ❸.

#### Assembly :

- 1) Match the 3 holes in the bottom of Cylinder ass'y ❸ to the 3 holes of Main Base as attending not to drop or knock the Cylinder ass'y ❸.
- 2) Tighten the 1 Screw ❶.
- 3) Match the Plate Ground Deck ❷ to the Hole of Base Main.
- 4) Tighten the other 2 Screws ❶.

#### Note :

- 1) Take care not to touch the Cylinder Ass'y ❸ and the tape guide post at reinstalling.
- 2) When reinstalling, Don't push down too much on Screw Driver.

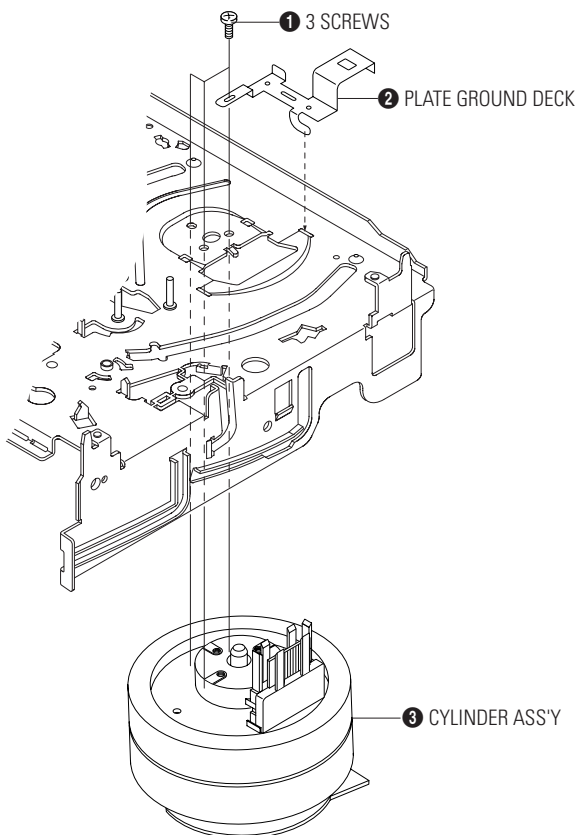


Fig. 3-29 Plate Ground Deck, Cylinder Ass'y Removal

### 3-3-24 Belt Pulley Removal

- 1) Remove the Belt Pulley ❶.

**Note :** Take extreme care not to get grease on Belt Pulley ❶ at assembling or reassembling.

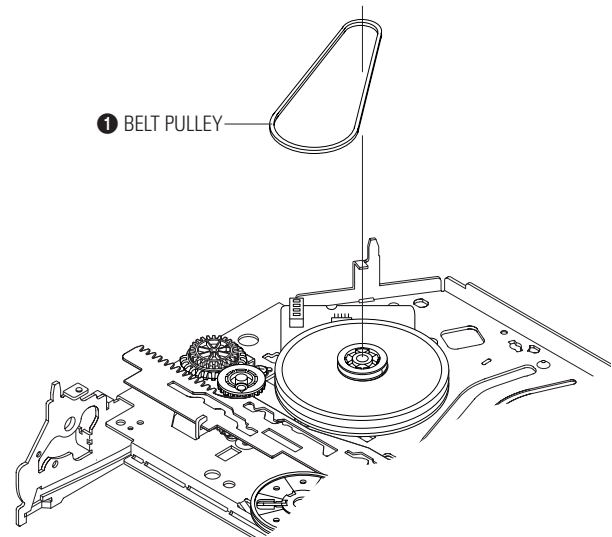


Fig. 3-30 Belt Pulley Removal

### 3-3-25 Level Head Cleaner Ass'y Removal (Optional)

- 1) Release the Hook ❶.
- 2) Lift the Lever Head Cleaner Ass'y ❷.

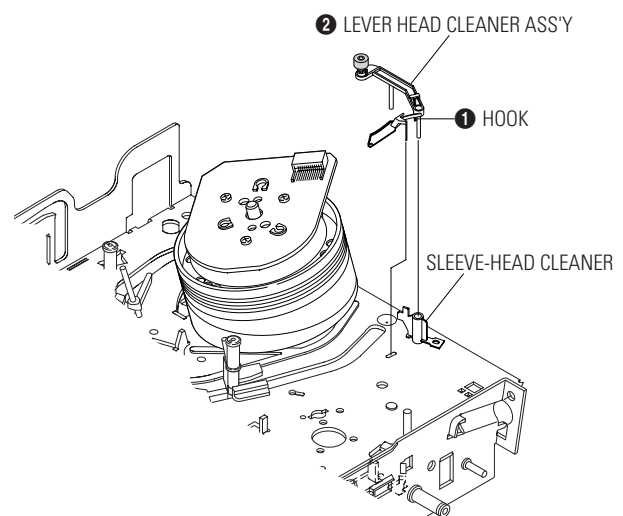


Fig. 3-31 Level Head Cleaner Ass'y Removal



### 3-3-26 Damper Capstan, Motor Capstan Ass'y Removal

- 1) Remove the Damper Capstan ❶ in the direction of arrow.
- 2) Remove the 3 Screws ❷.
- 3) Remove the Motor Capstan Ass'y ❸.

#### Assembly :

- 1) Match the 3 holes of Motor Capstan Ass'y ❸ to the 3 holes of Main Base. Be careful not to drop or knock the Motor Capstan Ass'y ❸.
- 2) Tighten the 3 Screws ❷ in the direction of arrow as shown detail drawing.
- 3) Assemble the Damper Capstan ❶.

**Note :** After tightening screws, check if there is gap between the head of screws and the top side of Main Base. There should have no gap between the head of screws and the top side of Main Base. After reinstalling, adjusting the tape transport system again.

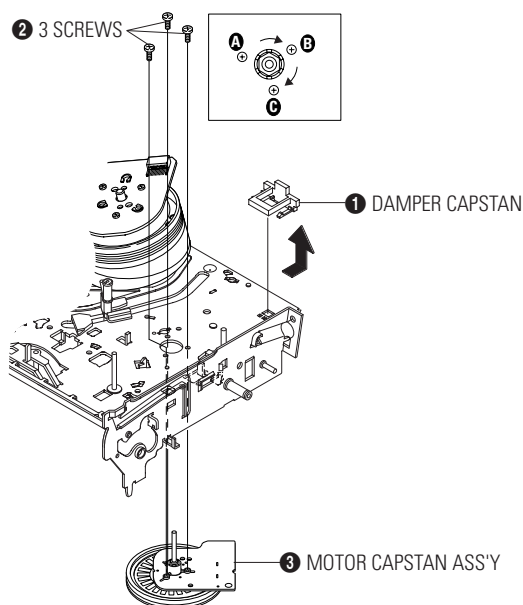


Fig. 3-32 Damper Capstan, Motor Capstan Ass'y Removal

### 3-3-27 How to Eject the Cassette Tape (If the unit does not operate on condition that is inserted into housing ass'y)

- 1) Turn the Gear worm ❶ clockwise with screw driver. (Refer to arrow)  
(Other method : Remove the Screw of Motor Load Ass'y, Separate the Motor Load Ass'y)

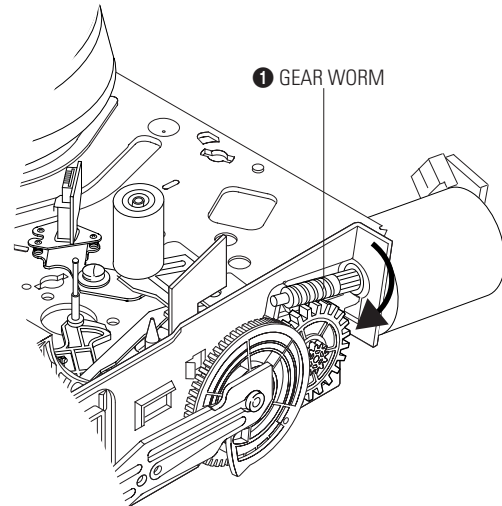


Fig. 3-33 How to Eject the Cassette Tape

- 2) When Slider S,T are approached in the position of unloading, rotate holder Clutch counter-clockwise after inserting screw driver in the hole of frame's bottom in order to wind the unwinded tape.  
(Refer to Fig.3-34)  
(If you rotate Gear Worm ❶ continuously when tape is in state of unwinding, you may cause a tape contamination by grease and tape damage.  
Be sure to wind the unwinded tape in the state of set horizontally.)
- 3) Rotate Gear Worm ❶ clockwise using screw driver again up to the state of eject mode and then pick out the tape. (Refer to Fig.3-33)

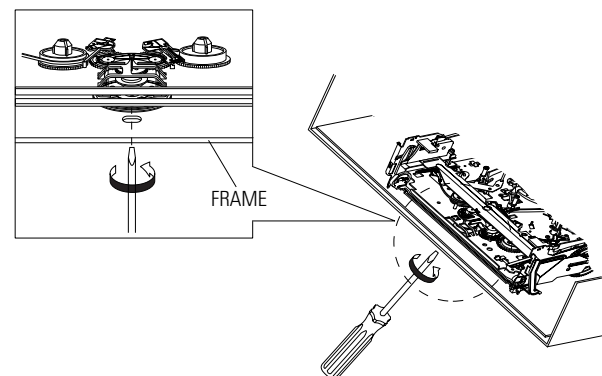


Fig. 3-34

### 3-4 Tape Transport System and Adjustment Locations

The tape transport system has been adjusted precisely in the factory. Alignment is not necessary except for the following :

- 1) Noise observed on the screen.
- 2) Tape damage.
- 3) Parts replacement in the tape transport system.

Lower flange height of tape guide is used as the reference for the transport adjustment.

To maintain the height of the tape guide and prevent damage, do not apply excessive force onto the main base.

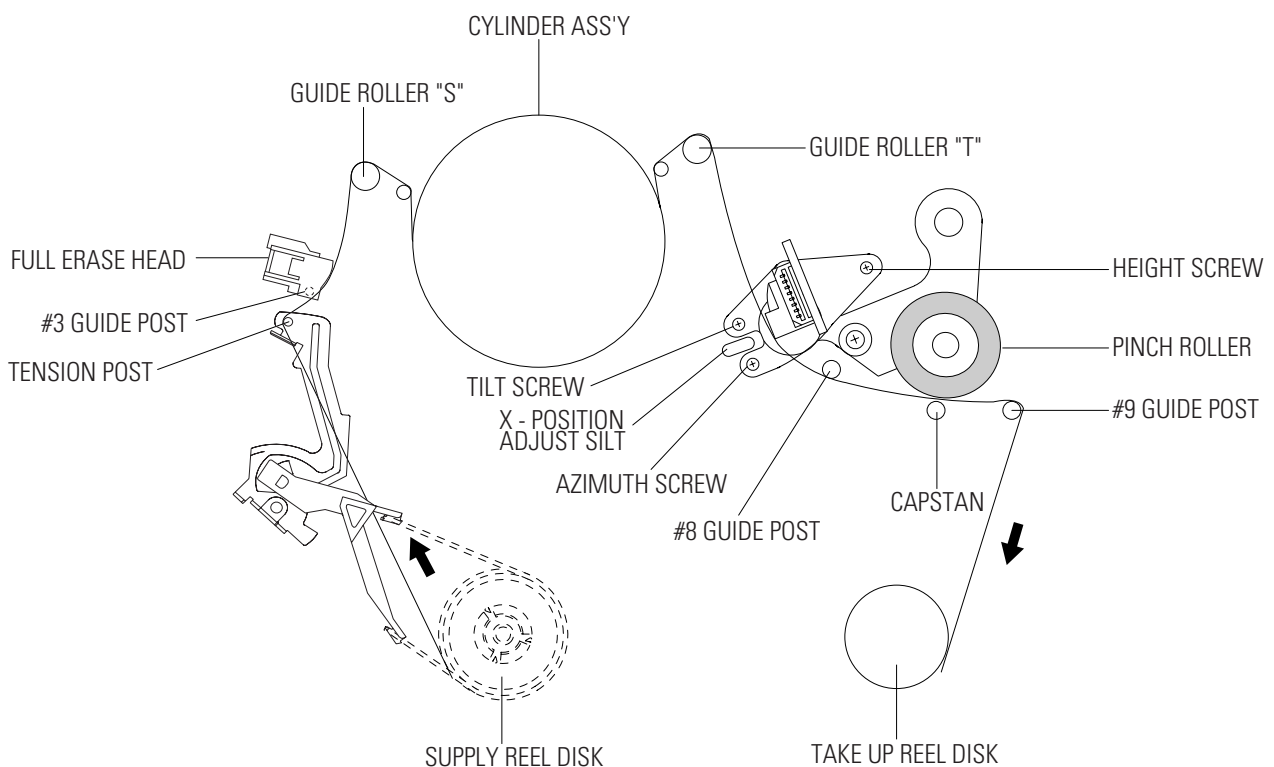


Fig. 3-4-1 Location of Tape Transport Adjustment

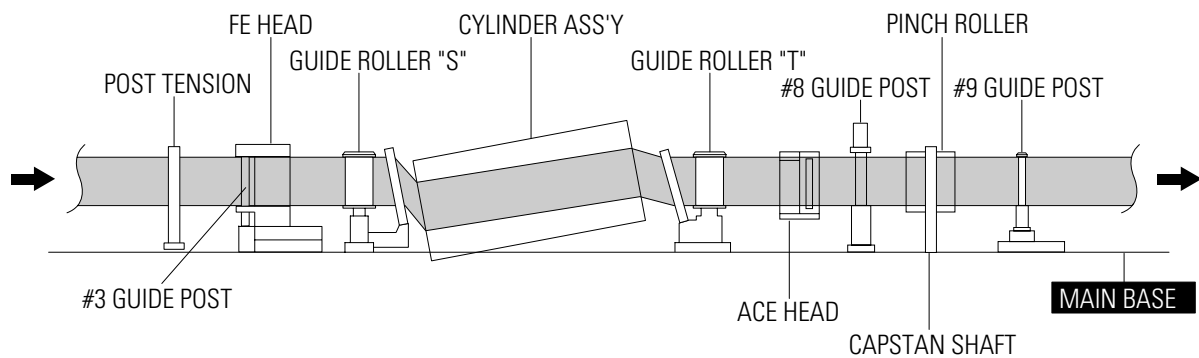


Fig. 3-4-2 Tape Travel Diagram

### 3-5 Tape Transport System Adjustment

When parts are replaced, perform the required adjustments by referring to procedures for the tape transport system. If there are any changes to the tape path, first run a T-120 tape and make sure excessive tape wrinkle does not occur at the tape guides.

- 1) If tape wrinkle is observed at the guide roller S, T, turn the guide roller S, T until wrinkle disappears.
- 2) If the tape wrinkle is still observed at the tape guide, perform the tilt adjustment of the ACE head.  
(See "2. Alignment and Adjustment" of the Service Manual for Test Point Locations.)

#### 3-5-1 ACE Head Assembly Adjustment

##### 3-5-1(a) ACE HEAD HEIGHT ADJUSTMENT

- 1) Run the alignment tape (Color bar) in the playback mode.
- 2) Observe surface of the audio head using a dental mirror.
- 3) Turn screw (C) clockwise or counterclockwise until the gap of lower tape edge and the lower edge of the control head is about 0.25mm.  
(Refer to Fig. 3-5-1 and 3-5-2)

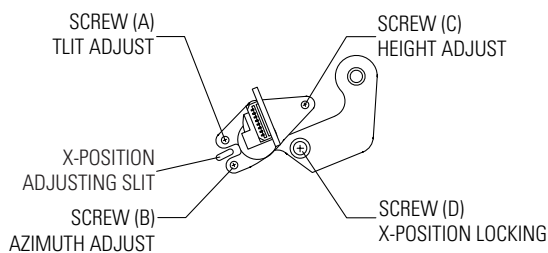


Fig. 3-5-1 Location of ACE Head Adjustment Screw

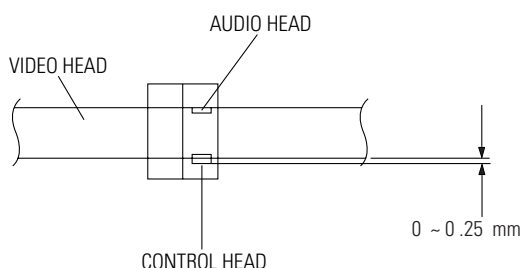


Fig. 3-5-2 ACE Head Height Adjustment

##### 3-5-1(b) ACE HEAD TILT ADJUSTMENT

- 1) Playback a blank tape and observe the position of the tape at the lower flange of tape guide.
- 2) Confirm that there is no curl or wrinkle at the lower flange of tape guide as shown in Fig. 3-5-3 (B).
- 3) If a curl or wrinkle of the tape occurs, slightly turn the screw (A) tilt adjust on the ACE head ass'y.
- 4) Reconfirm the ACE head height.

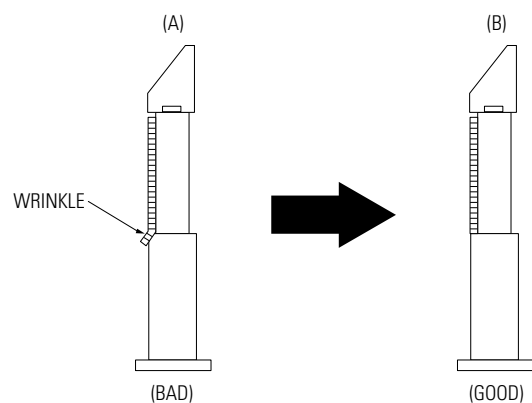


Fig. 3-5-3 Tape Guide Check

##### 3-5-1(c) AUDIO AZIMUTH ADJUSTMENT

- 1) Load alignment tape (Mono scope) and playback the NTSC : 7KHz (PAL : 6KHz) signal.
- 2) Connect channel-1 scope probe to audio output. (Monitor Output)
- 3) Adjust screw (B) to achieve maximum audio level. (See Fig. 3-5-1)

##### 4-5-1(d) ACE HEAD POSITION (X-POINT) ADJUSTMENT

- 1) See = (Alignment and Adjustment) for ACE Head position (X-Point) adjustment.

## (Alignment and Adjustment)

1. Load alignment tape (Mono Scope) and play back a 7KHz signal. (SP Mode)
2. Connect CH1 scope probe to J008 or J009 (Monitor Audio Out) CH2 scope probe to TPM01 H'D SW Adjust sync to Channel 1.
3. Set the control pulse to 7 msec using the Fine tracking buttons +/- on the remote control. (see Fig. (A),(B))
- 4) Connect CH1 scope probe to TPM01 Video ENV.
- 5) Insert the adjusting driver into the X-position adjusting gear and adjust the driver for maximum envelope waveform.

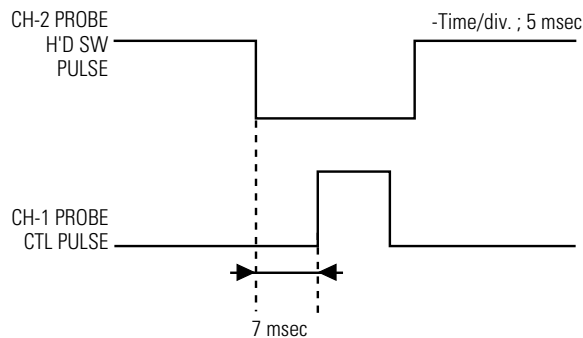
### Note:

Do not adjust the X-point using excessive force. After turning the X-point adjusting screw (D) counterclockwise a little, perform the adjustment and then tighten the screw. (See Fig. 3-5-1)

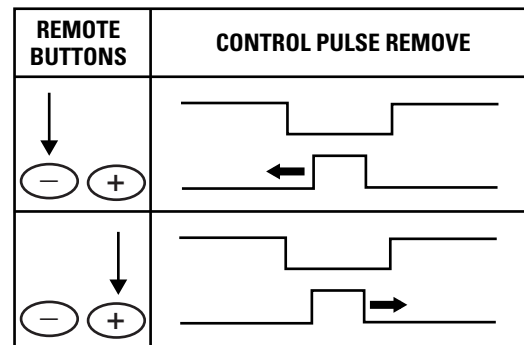
## SCOPE SETTINGS

### ◆ Setting of Scope ◆

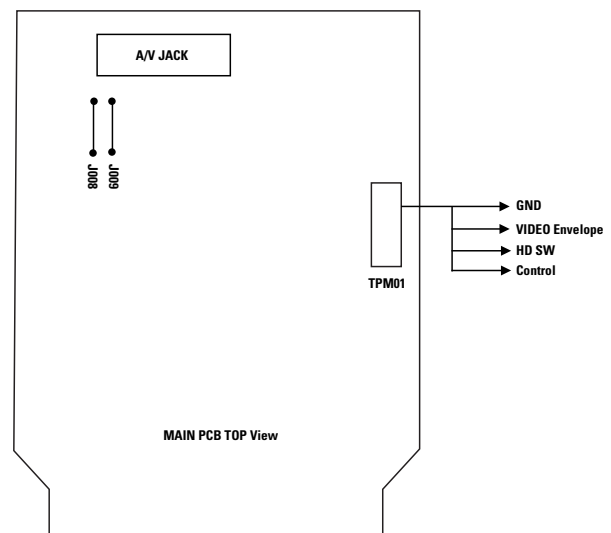
- Volt/div. ; CH-1 = 0.1V  
CH-2 = 0.2V



(A) Tracking Preset Adjustment (4HD/6HD)



(B) Control Pulse Adjustment



(C) MAIN PCB VCR TP Point


### 3-5-2 Linearity adjustment (Guide roller S, T adjustment)

- 1) Playback the Mono Scope alignment tape (SP mode).
- 2) Observe the video envelope signal on an oscilloscope (triggered by the video switching pulse).
- 3) Make sure the video envelope waveform (at its minimum) meets the specification shown in Fig. 3-5-4.

If it does not, adjust as follows :

**Note :**

- a=Maximum output of the video RF envelope.
- b=Minimum output of the video RF envelope at the entrance side.
- c=Minimum output of the video RF envelope at the center point.
- d=Maximum output of the video RF envelope at the exit side.

- 4) If the section A in Fig. 3-5-5 does not meet the specification, adjust the guide roller S up or down.
- 5) If the section B in Fig. 3-5-5 does not meet the specification, adjust the guide roller T up or down.
- 6) Play back the Mono Scope alignment tape (SP mode).
- 7) Connect an oscilloscope CH-1 to the Envelope and CH-2 to the H'D SW Pulse for triggering. (TPM01)
- 8) Turn the guide roller heads with a flat head (  ) driver to obtain a flat video RF envelope as shown in Fig. 3-8.

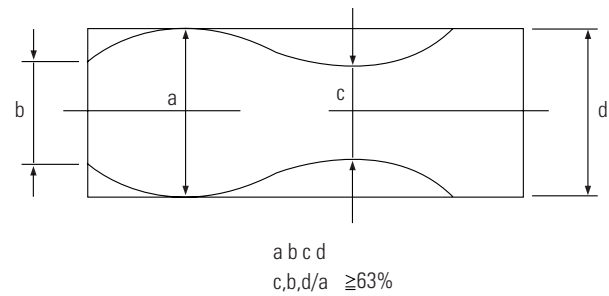


Fig. 3-5-4 Envelope Waveform Adjustment

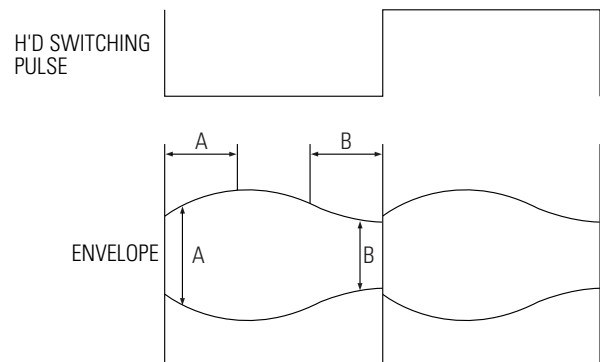


Fig. 3-5-5 Adjustment Points

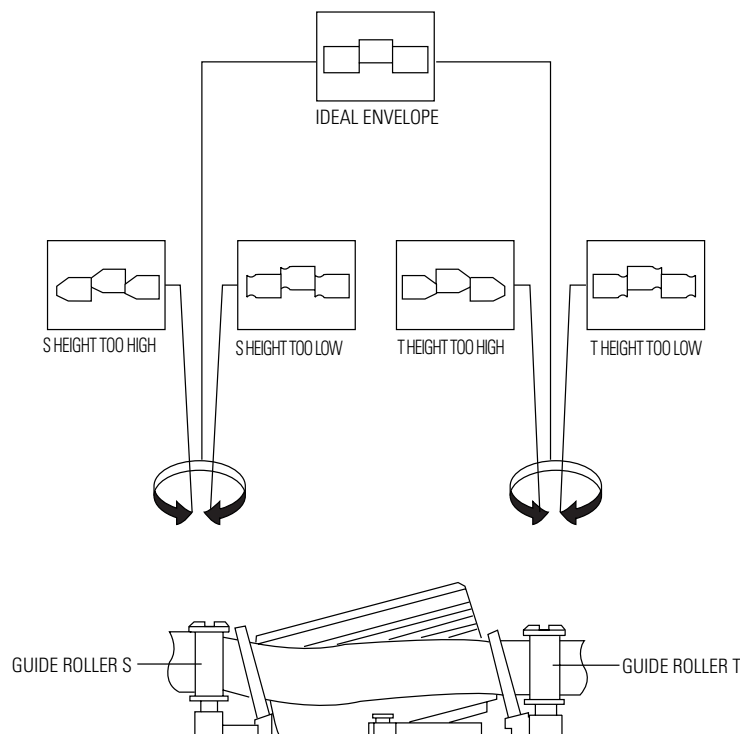


Fig. 3-5-6 Guide Roller S, T Height Adjustment

### 3-5-3 Check Transitional Operation from RPS to Play

Check transition from RPS mode to play mode :  
Using a pre-recorded SP tape, make sure the entry side of envelope comes to an appropriate steady state within 3 seconds (as shown in Fig. 3-5-7).  
If the envelope waveform does not reach specified peak-to-peak amplitude within 3 seconds, adjust as follows :

- 1) Make sure there is no gap between the supply roller lower flange and the tape.  
If there is a gap, adjust the supply guide roller again.
- 2) Change operation mode from the RPS to the play mode (again) and make sure the entry side of envelope rises within 3 second.

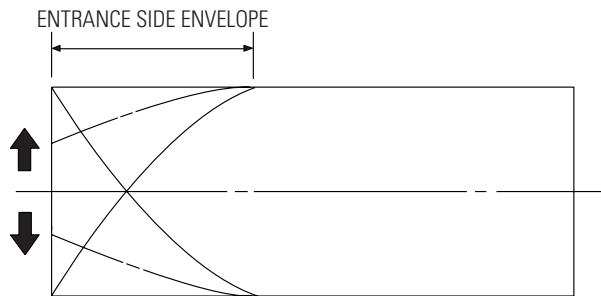


Fig. 3-5-7 Video Envelope Rising when Operation mode Changes from RPS to Play Mode

### 3-5-4 Envelope Check

- 1) Make recordings on T-120 (E-120) and T-160 (E-180) tape.  
Make sure the playback output envelope meets the specification as shown in Fig. 3-5-8.
- 2) Play back a self recorded tape (recording made on the unit using with T-120 (E-120)).  
The video envelope should meet the specification as shown in Fig. 3-5-8.  
In SP mode, (A) should equal (B).  
If the head gap is wide, upper cylinder should be checked.

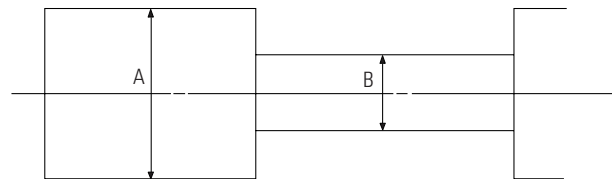


Fig. 3-5-8 Envelope Output and Output Level

### 3-5-5 Tape Wrinkle Check

- 1) Run the T-160 (E-180) tape in the playback, FPS, RPS and Pause modes and observe tape wrinkle at each guide.
- 2) If excessive tape wrinkle is observed, perform the following adjustments in Playback mode :

Tape wrinkle at the guide roller S, T section :  
Linearity adjustment.

Tape wrinkle at tape guide flange :  
ACE head assembly coarse adjustment.

## 3-6 Reel Torque

- 1) The rotation of the capstan motor causes the Holder Clutch Ass'y to rotate through the Belt Pulley.
- 2) The spring wrap PLAY/REV of holder clutch ass'y drives the disk reel S, T through gear idle by rotation of gear center ass'y.
- 3) Brake is operated by slider cam at FF/REW mode.
- 4) Transportation of accurate driving force is done by gears. (Gear Center Ass'y)

**Note :** If the spec. does not meet the followings specifications, replace the holder clutch ass'y and then recheck.

<Table 2-1>

MODE	TORQUE g/cm	GAUGE
PB	42± 11	Cassette Torquemeter
RPS	145 ± 30	Cassette Torquemeter

## 3-7 Deck

### 3-7-1 Tray Disc Removal

- (1) Insert a Screw Driver ❶ into Emergency Hole ❷ and push the Slider Housing ❸ in the direction arrow "A".
- (2) When the Tray Disc ❹ comes out a little, pull it in the direction arrow "B" by hand.
- (3) Pull the Tray Disc ❹ to disassemble, while simultaneously pushing 2 Stoppers ❺ (left, right) in the direction arrow "C", "D".

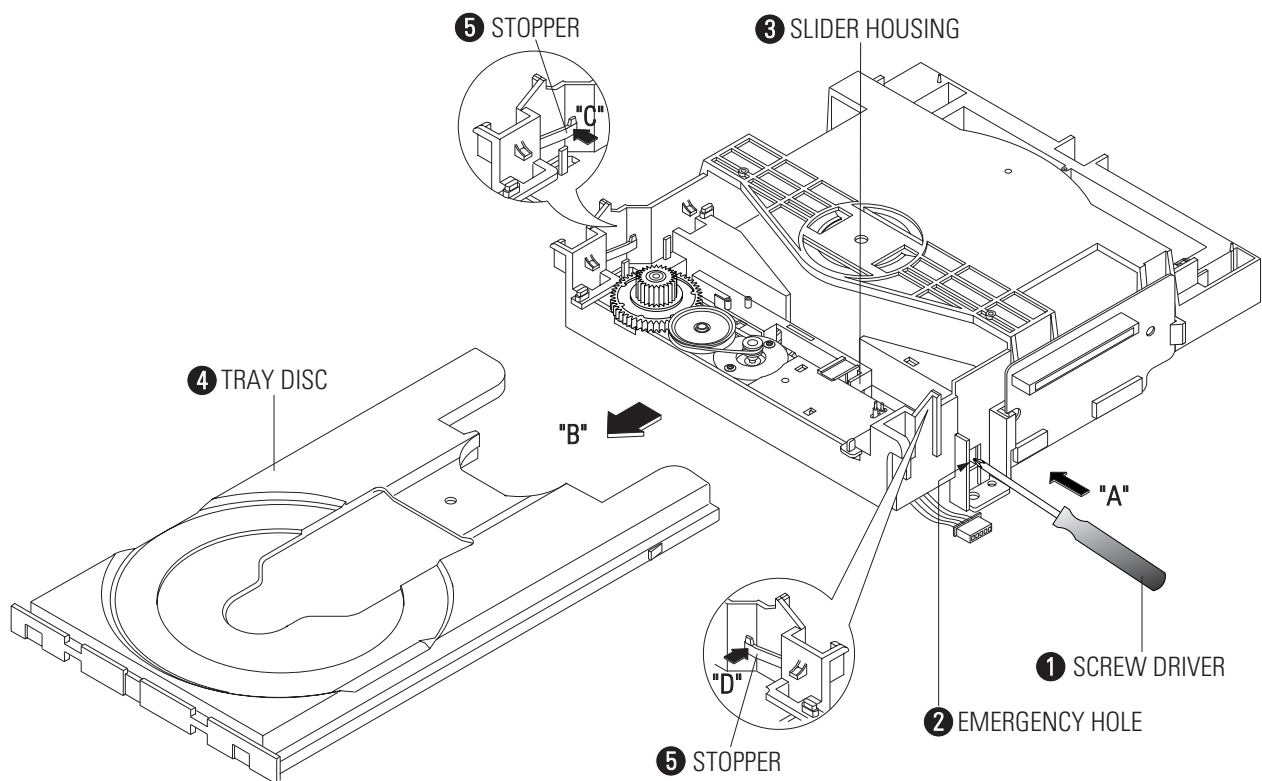


Fig. 3-7-1 Tray Disc Removal

### 3-7-2 Assy P/U Deck Removal

- (1) Disconnect DCN2 ❶, DCN3 ❷.
- (2) Lift down the Assy P/U Deck ❸ while simultaneously pushing 2 Hooks ❹, ❺ in the direction of arrow "A", "B".

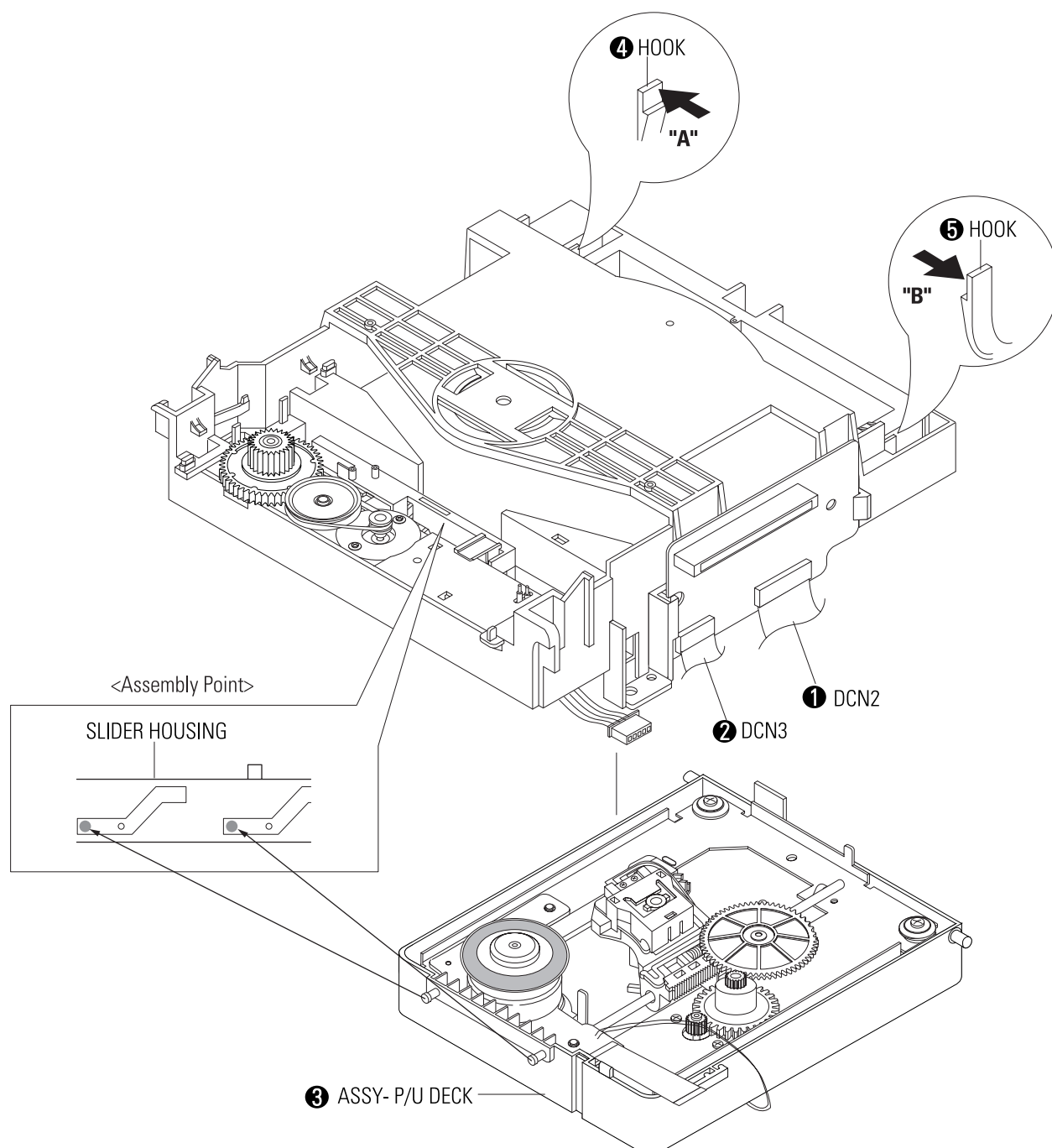


Fig. 3-7-2 Assy P/U Deck Removal



### 3-7-3 Housing Ass'y Removal

- (1) Remove Belt ❶.
- (2) Push the Hook ❷ in the direction arrow "A" and lift up Pulley Gear ❸.
- (3) Push the Slider Housing ❺ in the direction arrow "B" and lift up the Gear Tray ❹.
- (4) Lift up the Slider Housing ❺.
- (5) Remove the soldering ❻ of 2 points (Red, Black).
- (6) Remove 2 Screws ❼ and lift down the Motor Load Assy ❸.
- (7) Push the 3 Hooks ❾ bottom side in the direction arrow "C" and lift up the Housing PCB ❿.
- (8) Push the Hooks ⓫ and remove Deck PCB ⓬.

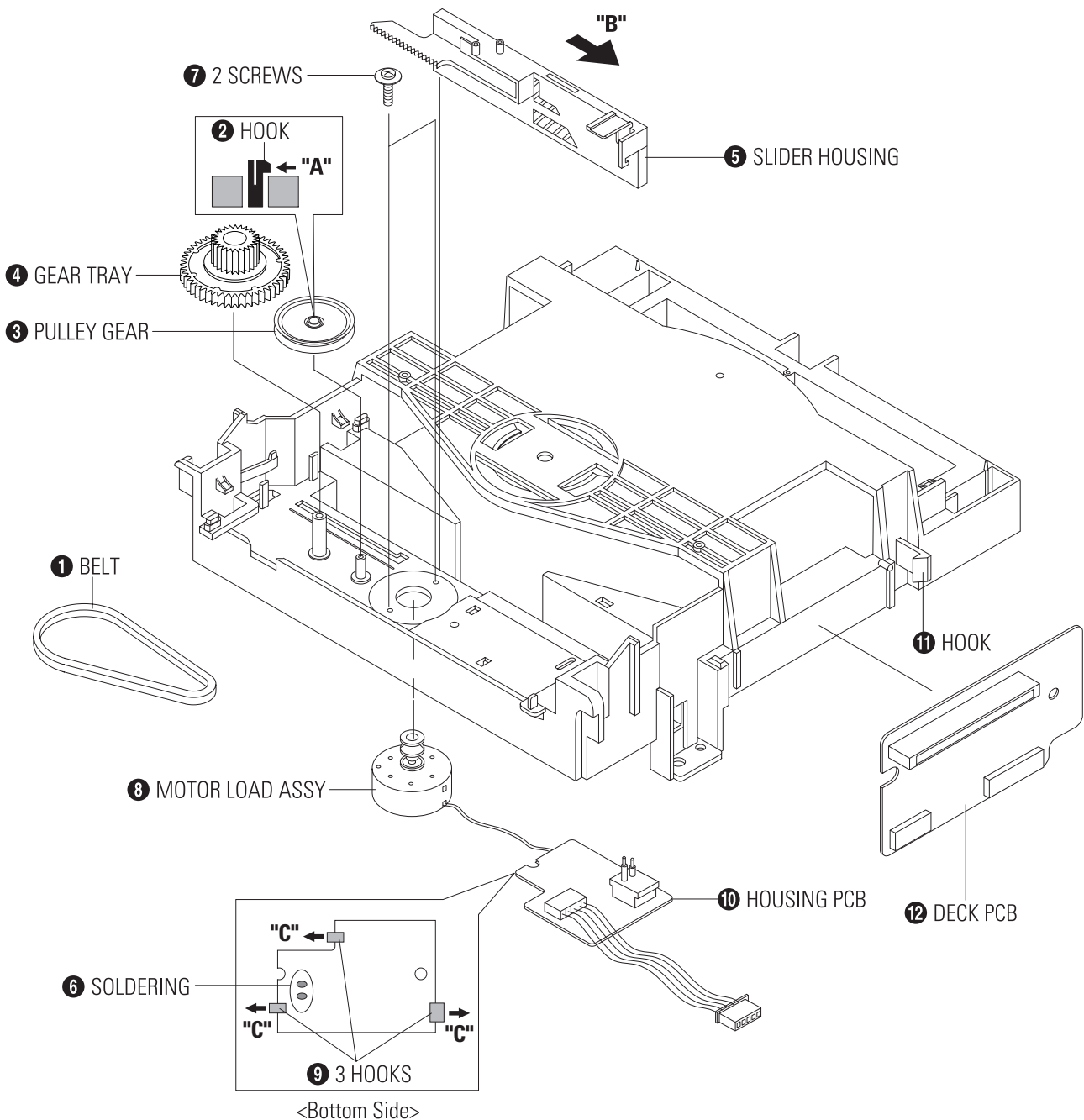


Fig. 3-7-3 Housing Ass'y Removal

### 3-7-4 Sub Chassis Removal

- (1) Remove the Soldering of Motor Feed (+,- wire) **1** .
- (2) Remove the 4 Screws **2** .
- (3) Lift up the Ass'y Brkt Deck **3** .

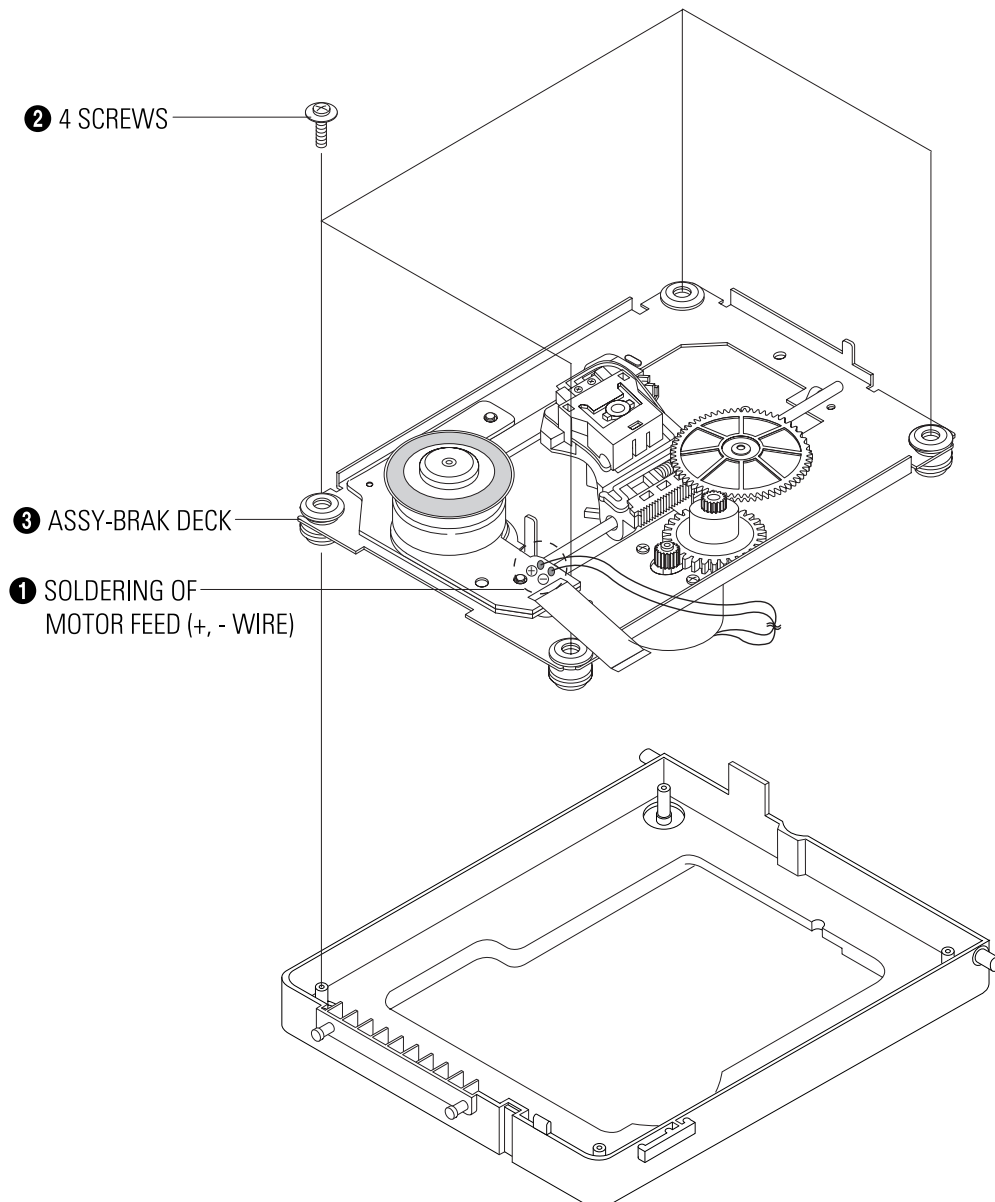


Fig. 3-7-4 Sub Chassis Removal

### 3-7-5 Ass'y Brkt Deck Removal

- (1) Remove Washer ❶.
- (2) Remove Gear Feed B ❷, Gear Feed A ❸.
- (3) Remove 2 Screws ❹.
- (4) Remove Shaft Pick-Up ❺ and Pick-Up Assy ❻.
- (5) Remove 1 Screw ❷.
- (6) Remove 2 Screws ❸.
- (7) Remove 3 Spring Spindle ❹ and Motor Spindle Ass'y ❺.

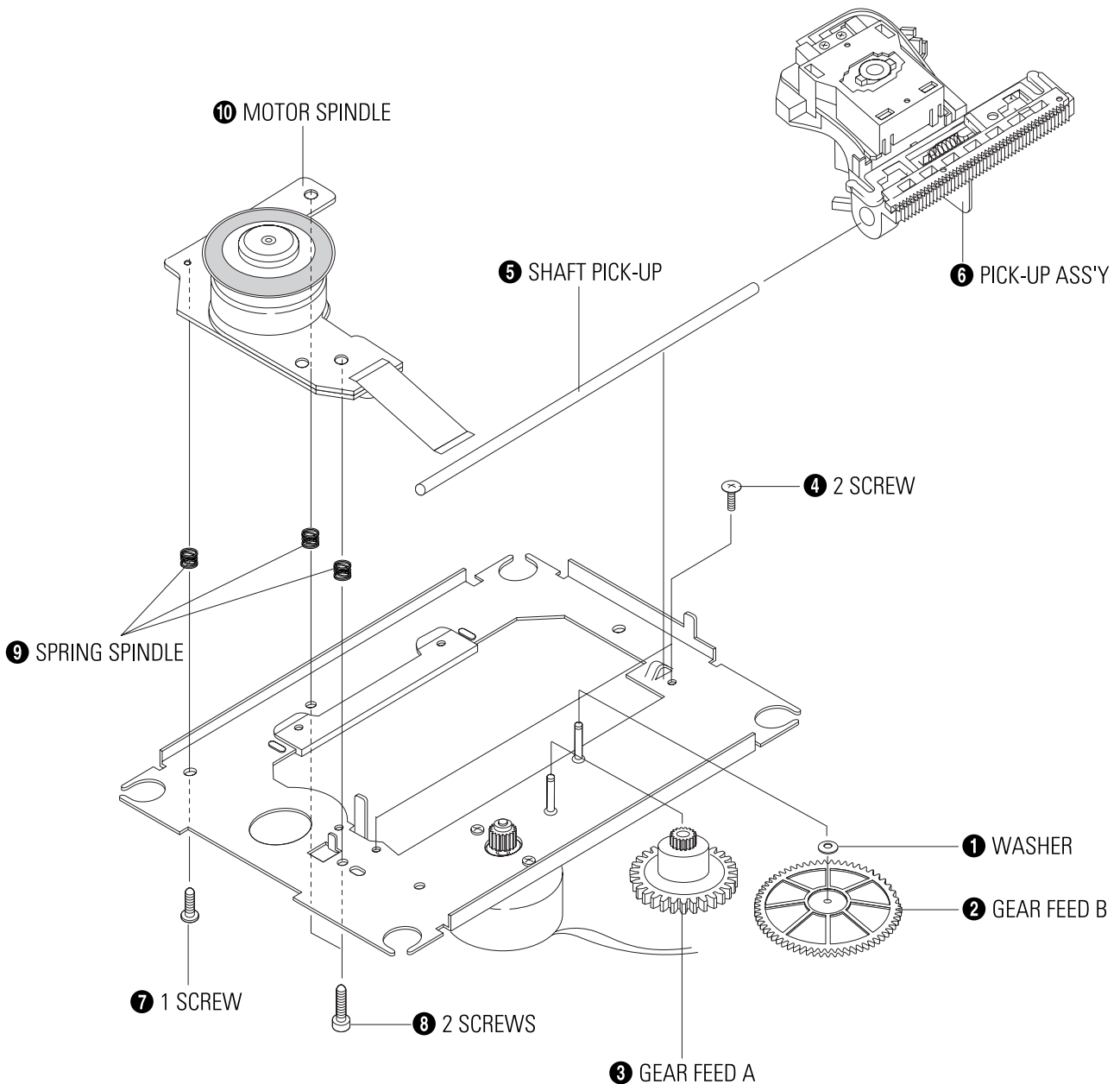


Fig. 3-7-5 Ass'y Brkt Deck Removal

## 4. Alignment and Adjustments (Electrical)

### 4-1 Preadjustment

#### 4-1-1 Factory Mode

1. Do not attempt these adjustments in the Video Mode.
2. The Factory Mode adjustments are necessary when either the EEPROM (IC901) or the CRT is replaced.
3. Do not tamper with the "Adjustment" screen of the Factory Mode menu. This screen is intended only for factory use.

#### 4-1-3 When CRT Is Replaced

Make the following adjustments after setting up purity and convergence:

White Balance  
Sub-Brightness  
Vertical Center  
Vertical Size  
Horizontal Size

#### 4-1-2 When EEPROM (IC901) Is Replaced

1. When IC901 is replaced all adjustment data revert to initial values. It is necessary to re-program this data.
2. After IC901 is replaced, warm up the TV for 10 seconds.

## 4-2 Factory ("Service") Mode

### 4-2-1 Procedure for the "Adjustment" Mode

1. This mode uses the standard remote control. The Service Mode is activated by: (1) pressing the "FACTORY" service key on the local-keyboard, or (2) by entering the following remote-control sequence (within 2 seconds):  
  
STAND-BY → MUTE → 1 → 8 → 2 → POWER ON
2. The "SERVICE (FACTORY)" message will be displayed. The Service Mode has three components: Adjustment, Option Bytes and Reset.
3. Access the Adjustment Mode by pressing the "SELECT" keys (◀ ▶). The adjustment parameters are listed in the accompanying table, and selected by pressing the "SELECT" keys (s,t).
4. Selection sequences for the NTSC systems:  
  
down or up key:  
  
CAP>SBT>SCT>SCR>STT>BLR>BLG>RG>GG>BG>PWL>SC>VSL>VA>NVS>NHS>EW1>EWP>EWUC>EWLC>VSC>HP>HB>TC>EW2>CDL>BKS>NDL>WS>VM
5. The "SELECT" keys (s,t) increase or decrease the adjustment values, (stored in the non-volatile memory) when Adjustment Mode is cancelled.

## 4-2-2 Adjust

OSD	Initial	Adjust	Range	Function	OSD	Initial	Adjust	Range	Function
CAP	10	Fix		CAPTION Position	NHS	35		0-63	Horizon Shift
SBT	4		0-23	Sub Brigh	EW1	25		0-63	EW
SCT	15		0-23	Sub Contrast	EWP	3		0-63	EW (Panorama)
SCR	13	Fix	0-13	Sub Color	EWUC	32	Fix	0-63	Upper Corner
STT	2	Fix	0-13	Sub Tint	EWLC	32	Fix	0-63	Lower Corner
BLR	32		0-63	Low Light R	VSC	32	Fix	0-63	Vertical scroll
BLG	32		0-63	Low Light G	HP	34		0-63	H-Parallelogram
RG	32		0-63	High Light R	HB	32		0-63	Horizontal Bow
GG	32		0-63	High Light G	TC	26		0-63	EW Trapezium
BG	32		0-63	High Light B	EW2	32	Fix	0-63	28"EW
PWL	12	Fix	0-15	Peak white level	CDL	10	Fix	0-15	Cathode Drive Level
SC	12	Fix	0-63	S-Correction	BKS	1	Fix	0-1	Black Stretcher
VSL	24		0-63	Vertical Slope	NDL	7	Fix	0-15	NTSC Delay
VA	15		0-63	Vertical Amplitude	WS	3	Fix	0-3	White Stretch
NVS	32		0-63	Vertical shift	VM	0	Fix	0-3	Amplitude of Scan Velocity

## 4-2-3 AGING Mode(Reference Only)

This pattern is used for pre-heating the CRT during manufacturing-it is accessed in the factory by twice pressing the "FACTORY" key.

Even if the TV power is cut off, the Aging Mode is not cancelled.

The "AGING" marking is displayed on the screen.

The AGING mode is cancelled by epresing the "FACTORY" key.

#### 4-2-4 Option

NO	OSD	Adjust	Range
1	VIDEO MUTE	ON	ON/OFF
2	ZOOM	NOR/ZOOM/16:9	NORMAL,NOR/ZOOM,NOR/ZOOM/16:9
3	AUTO POWER	ON	ON/OFF
4	AUDIO MUTE	ON	ON/OFF
5	LANGUAGE	English	English/Espanol/Franch
6	V REFRESH	ON	ON/OFF
7	BLUE SCREEN	ON	ON/OFF
8	V-CHIP	ON	ON/OFF
9	ANTENNA	IRC	IRC/AFN
10	S-VIDEO	OFF	ON/OFF
11	VCR HEAD	HIFI	HIFI/4HD/2HD

#### 4-2-5 Reset

The Reset Mode is used during factorying inspection

Function Reset : After Factorying Reset, the following items items revert to their initial values.

- |               |        |
|---------------|--------|
| 1. Volume     | 10     |
| 2. Channel    | ANT 3  |
| 3. P- STD     | MEMORY |
| 4. Auto Power | ON     |
| 5. NR         | OFF    |

Caution : When the EEPROM is replaced ; all items revert to their initial values.

#### 4-2-6 VCR Test Mode (Reference Only)

The VCR Test Mode is used during factorying inspection or when exchange VCR deck.

\* Entering : STBY Mode -> factory key -> Power key (light up all LED)

Function : "9" -> Head Switch Auto Adjustment.

"5" -> Env Center point Auto Adjustment.

"TRK + " -> Env max point Adjustment.

"TRK - " -> Env min point Adjustment.

\* Cancellation : pull out power cord.

## 4-3 Other Adjustments

---

### 4-3-1 General

1. Usually, a color TV needs only slight touch-up adjustment upon installation. Check the basic characteristics such as height, horizontal and vertical sync and focus.
2. The picture should have good black and white details. There should be no objectionable color shading; if color shading is present, perform the purity and convergence adjustments described below.
3. Use the specified test equipment or its equivalent.
4. Correct impedance matching is essential.
5. Avoid overload. Excessive signal from a sweep generator might overload the front-end of the TV. When inserting signal markers, do not allow the marker generator to distort test results.
6. Connect the TV only to an AC power source with voltage and frequency as specified on the backcover nameplate.
7. Do not attempt to connect or disconnect any wires while the TV is turned on. Make sure that the power cord is disconnected before replacing any parts.
8. To protect against shock hazard, use an isolation transformer.

### 4-3-2 Automatic Degaussing

A degaussing coil is mounted around the picture tube, so that external degaussing after moving the TV should be unnecessary. But the receiver must be properly degaussed upon installation.

The degaussing coil operates for about 1 second after the power is switched ON. If the set has been moved or turned in a different direction, disconnect its AC power for at least 10 minutes.

If the chassis or parts of the cabinet become magnetized, poor color purity will result. If this happens, use an external degaussing coil. Slowly move the degaussing coil around the faceplate of the picture tube and the sides and front of the receiver. Slowly withdraw the coil to a distance of about 6 feet before removing power.

### 4-3-3 High Voltage Check

**CAUTION:** There is no high voltage adjustment on this chassis. The B+ power supply must be set to +130 volts (Full color bar input and normal picture level).

1. Connect a digital voltmeter to the second anode of the picture tube.
2. Turn on the TV. Set the Brightness and Contrast controls to minimum (zero beam current).
3. The high voltage should not exceed 30KV.
4. Adjust the Brightness and contrast controls to both extremes. Ensure that the high voltage does not exceed 30KV under any conditions.

#### **4-3-4 FOCUS Adjustment**

1. Input a CROSS hatch signal.
2. Adjust the tuning Focus VR for the clearest picture.
3. Adjust the FOCUS control for well defined scanning lines in the center area of the screen.

#### **4-3-5 Screen Adjustment**

1. Turn to the White Signal.
2. Adjust the VR screen for a normal picture is (no blooming or flyback line).  
Input the Factory -> G2-Adjust choice -> Screen VR tuning OK Mode

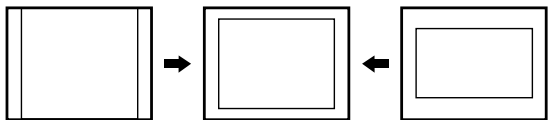
#### **4-3-6 Purity Adjustment**

1. Warm up the receiver for at least 20 minutes.
2. Plug in the CRT deflection yoke and tighten the clamp screw.
3. Plug the convergence yoke into the CRT and set in as shown in Fig. 5-1.
4. Input a black and white signal.
5. Fully demagnetize the receive by applying an external degaussing coil.
6. Turn the CONTRAST and BRIGHTNESS controls to maximum.
7. Loosen the clamp screw holding the yoke. Slide the yoke backward or forward to provide vertical green belt. (Fig. 5-2).
8. Tighten the convergence yoke.
9. Slowly move the deflection yoke forward, and adjust for the best overall green screen.
10. Temporarily tighten the deflection yoke.
11. Produce blue and red rasters by adjusting the low-light controls. Check for good purity in each field.
12. Tighten the deflection yoke.

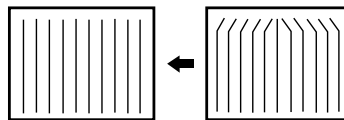


### 4-3-7 I<sup>2</sup>C BUS GEOMETRIC Adjust

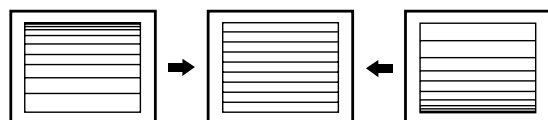
1. V SIZE(VA)



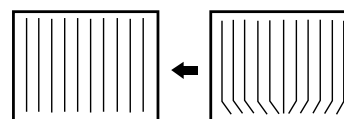
2. UP CPIN (EWUC) : 29" Only



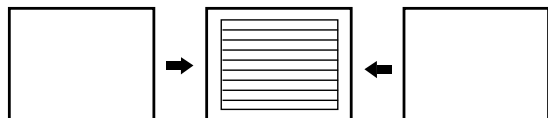
3. V LINEARITY (VSL)



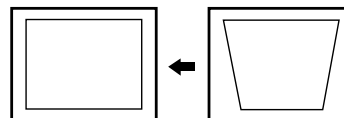
4. LO CPIN (EWLC) : 29" Only



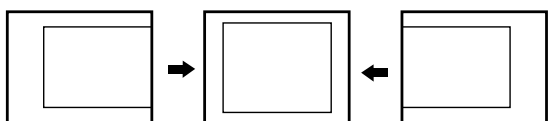
5. V S CORRECTION (SC)



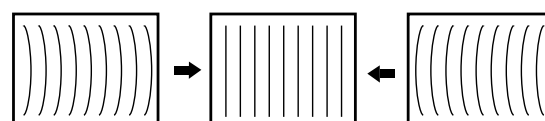
6. TILT (TC)



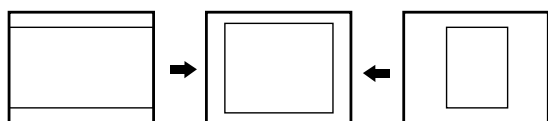
7. H POSITION (NHS)



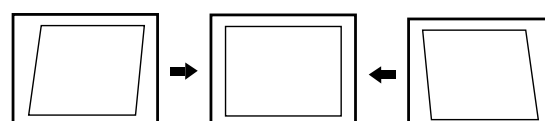
8. AFC BOW (HB)



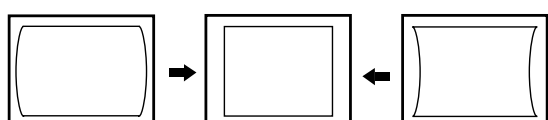
9. H SIZE(EWI)



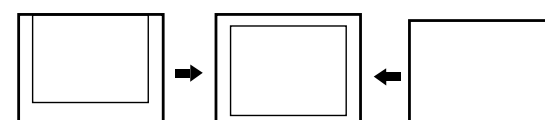
10. AFC ANGLE (HP)



11. PIN COMP (EWP)



12. V POSITION (NVS)



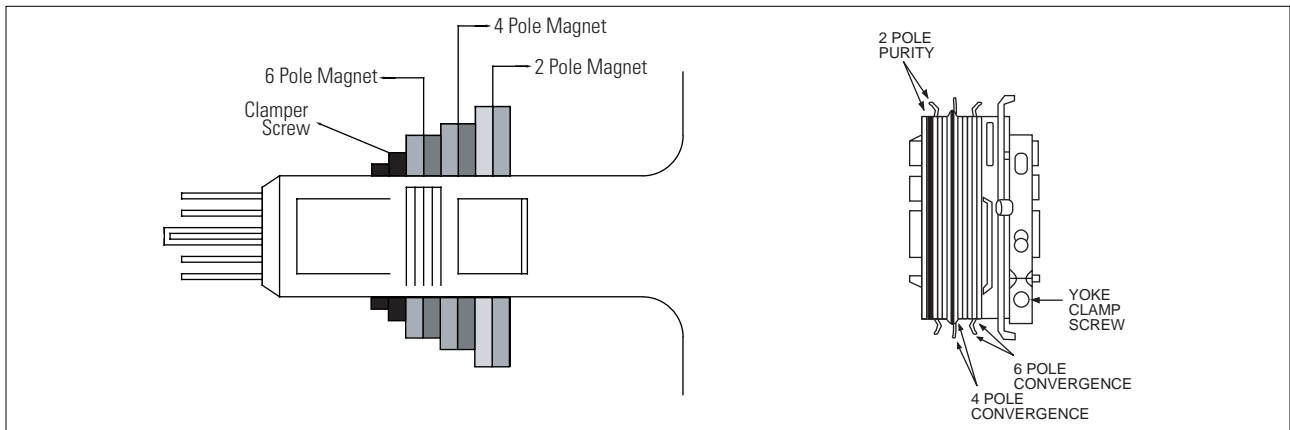


Fig. 5-1 Convergence Magnet Assembly

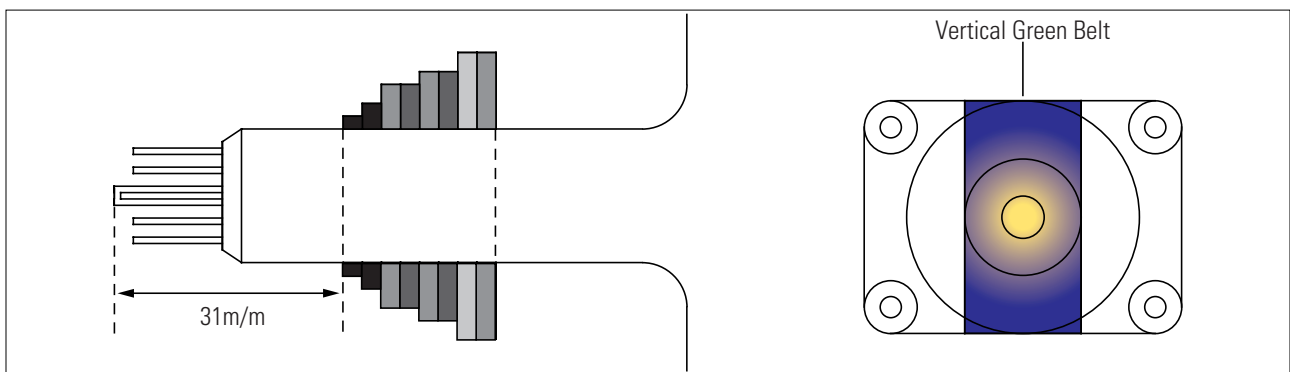


Fig. 5-2 Center Convergence Adjustment

### 4-3-8 White Balance Adjustment

#### 4-4-7 (A) HIGH-LIGHT ADJUSTMENT

1. Input either a Lion Head or a “pure white” pattern.
2. Warm up the TV for 30 minutes.
3. Check the data in the Service Mode
4. Adjust RG, BG in the Factory Mode.

#### 4-4-7 (B) LOW-LIGHT ADJUSTMENT

1. Automatically accomplished during the high-light adjustment.

### 4-3-8 Center Convergence Adjustment

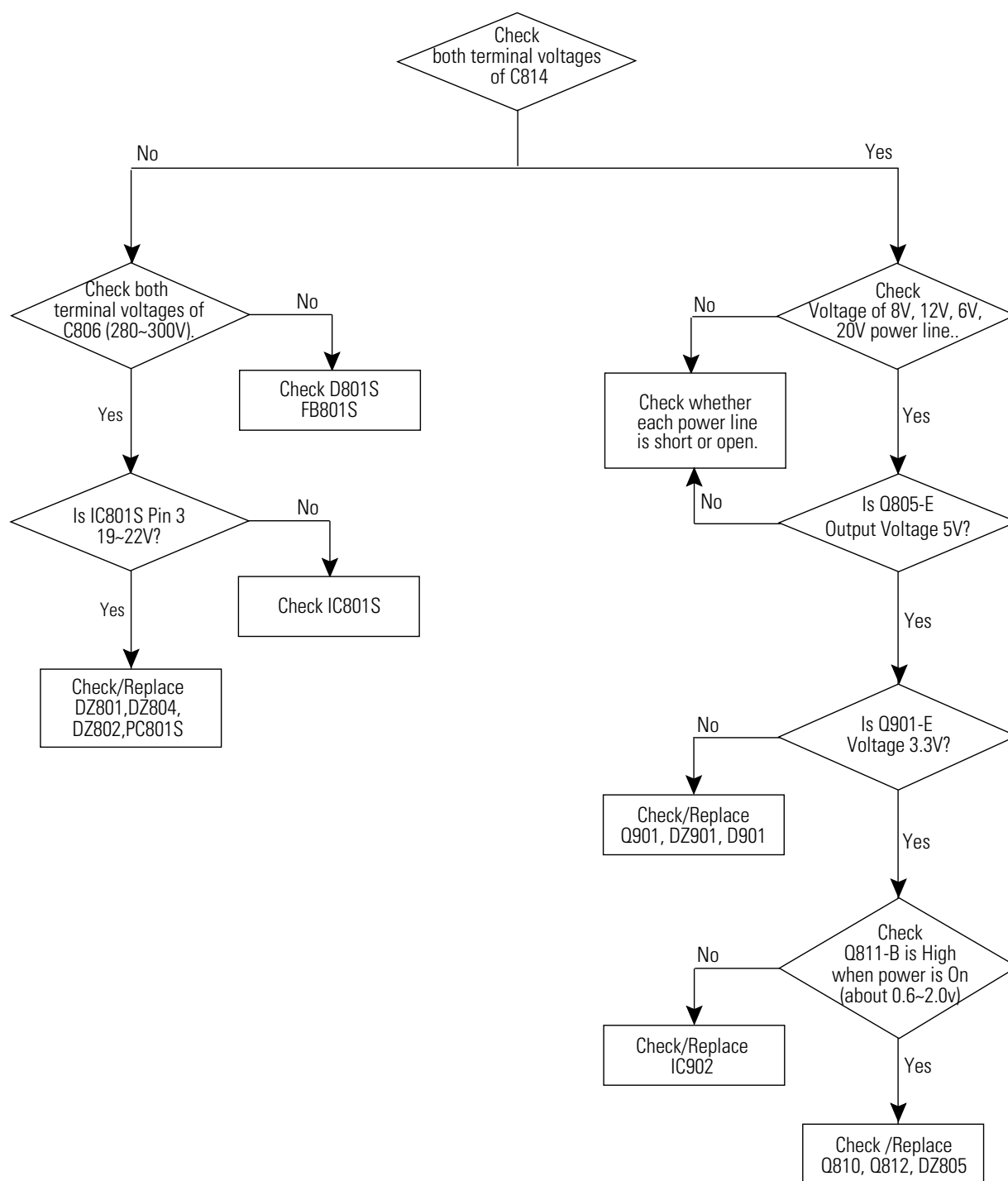
1. Warm up the receiver for at least 20 minutes.
2. Adjust the two tabs of the 4 pole magnets to change the angle between them. Superimpose the red and blue vertical lines in the center area of the screen.
3. Adjust the Brightness and Contrast controls for a well defined picture.
4. Adjust the two-tab pairs of the 4 pole magnets, and change the angle between them. Superimpose the red and the blue vertical lines in the center area of the screen.
5. Turn the both tabs at the same time, keeping the angle constant, and superimpose the red and blue horizontal line in the center of the screen.
6. Adjust the two-tab pairs of the 6-pole magnets to superimpose the red and blue line onto the green. (Changing the angle affects the vertical lines, and rotating both magnets affects the horizontal lines.)
7. Repeat adjustments 2~6, if necessary.
8. Since the 4-pole magnets and 6-pole magnets interact, the dot movement is complex (Fig. 5-3).



Fig 5-3 Center Convergence Adjustment

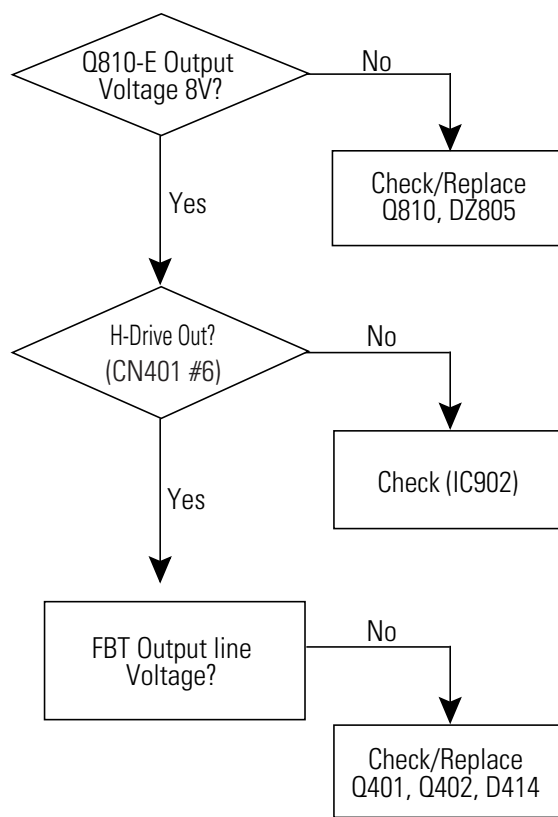
## 5. Troubleshooting

### 5-1 No Power (No Picture on)



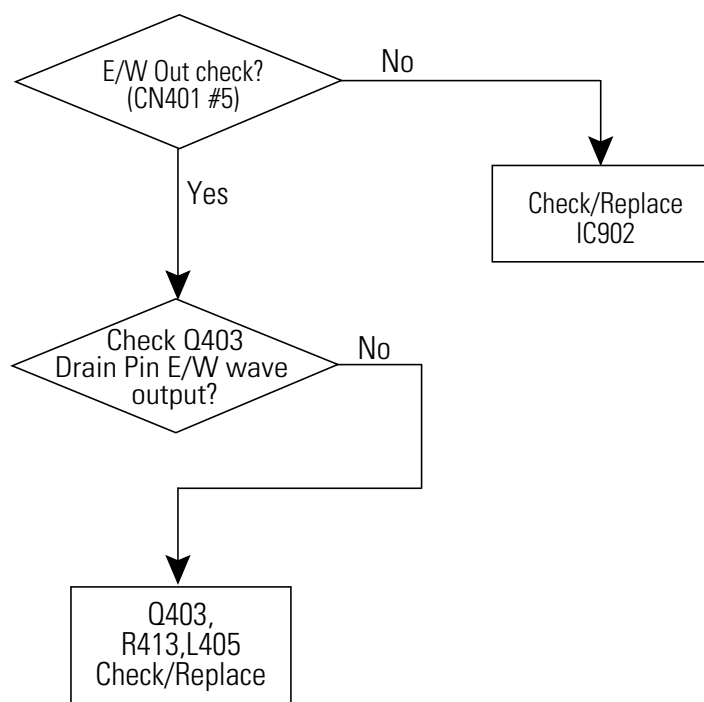
## 5-2 No Power (No Picture)

---



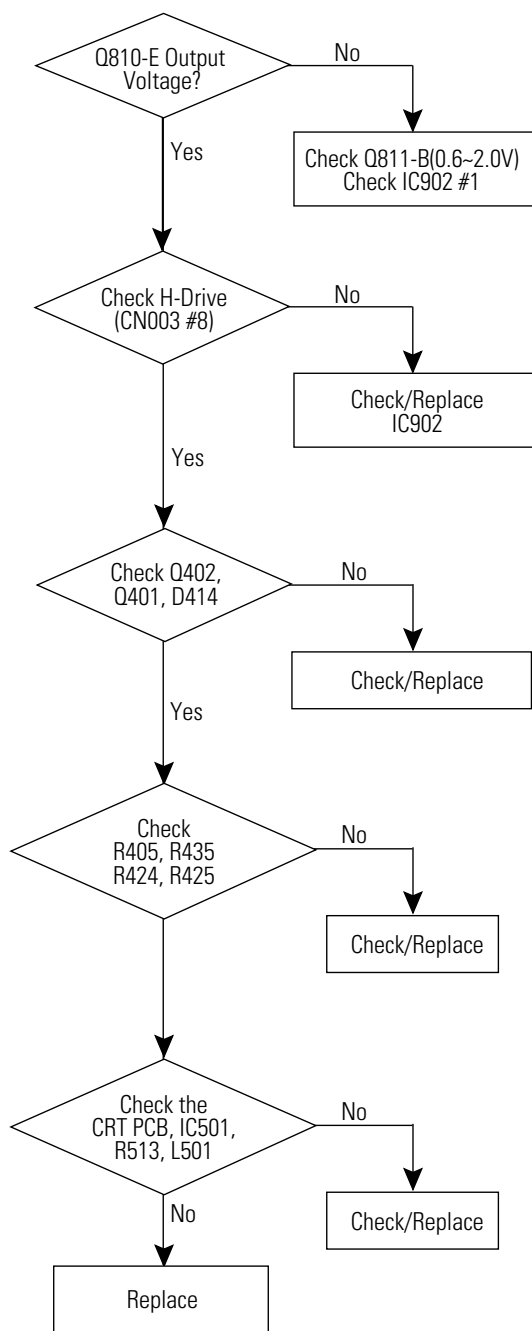
## 5-3 E/W Correction Not

---

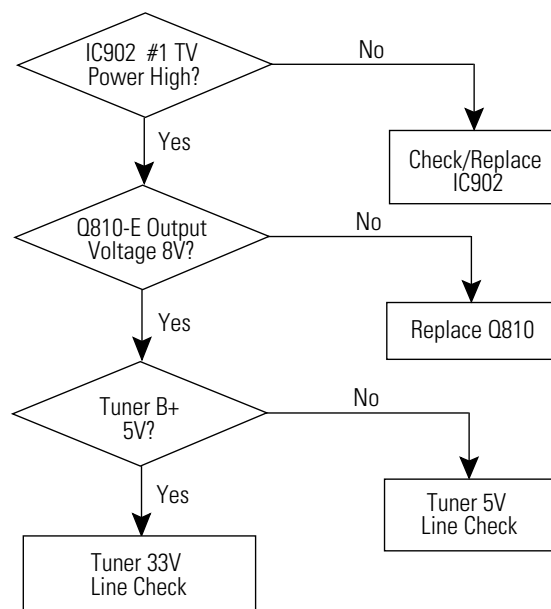


## 5-4 No Raster / No RF Signal

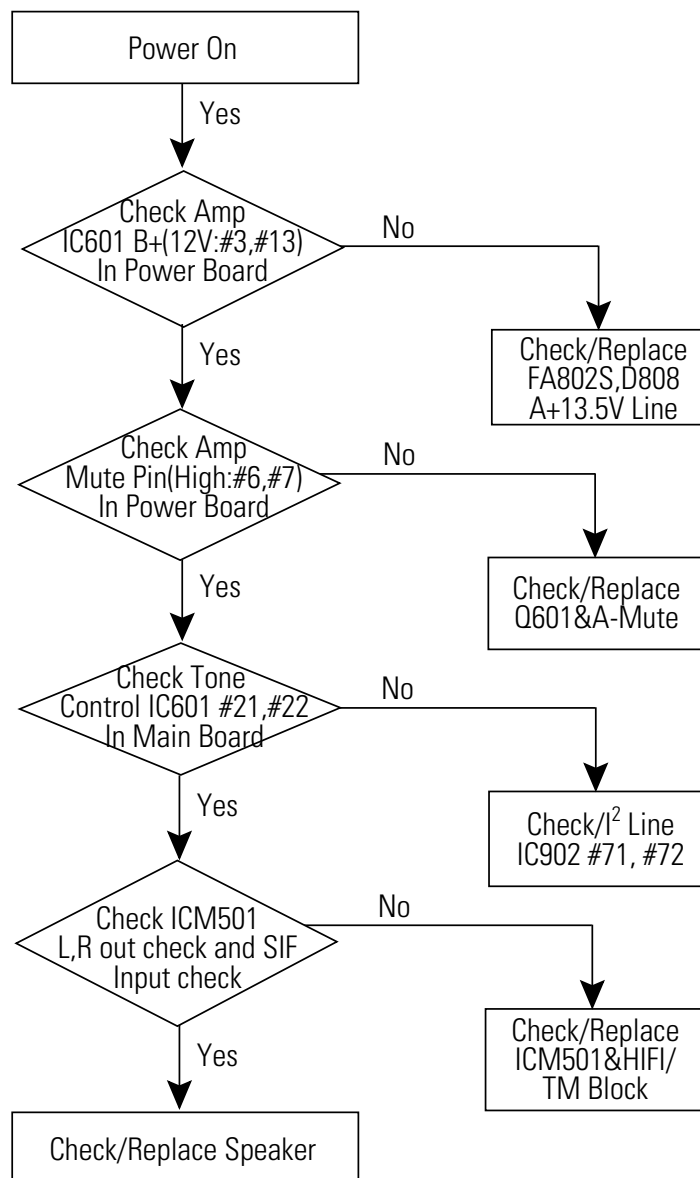
\* No Raster



\* No signal

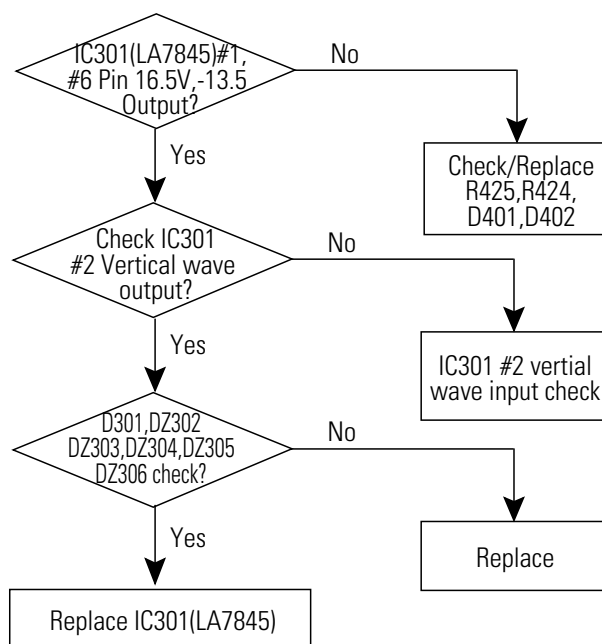


## 5-5 No Sound



## 5-6 Horizotal Line

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## 5-7 No Picture (Sound OK)

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1. Check the Brightness, Contrast and Color adjustments
2. Check: AV Picture
3. See Signal Block Diagram

## 5-8 No Sound (Picture OK)

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1. Check the Volume adjustment level.
2. Check AV Video
3. See Signal Block Diagram



## **5-9 RF Weak Signal (Playback, AV Mode OK)**

---

1. Check Tuner (TU01S) B+. Check: 8V  
33V (DZ201). Check 5V

## **5-10 No Vertical SCAN**

---

1. Check R425, D401
2. Check IC301, #2
3. Check Chroma module Vertical-out Line
4. Check DY Connector

## **5-11 Horizontal Size**

---

1. Check C411, R421, Q403, R413, R405

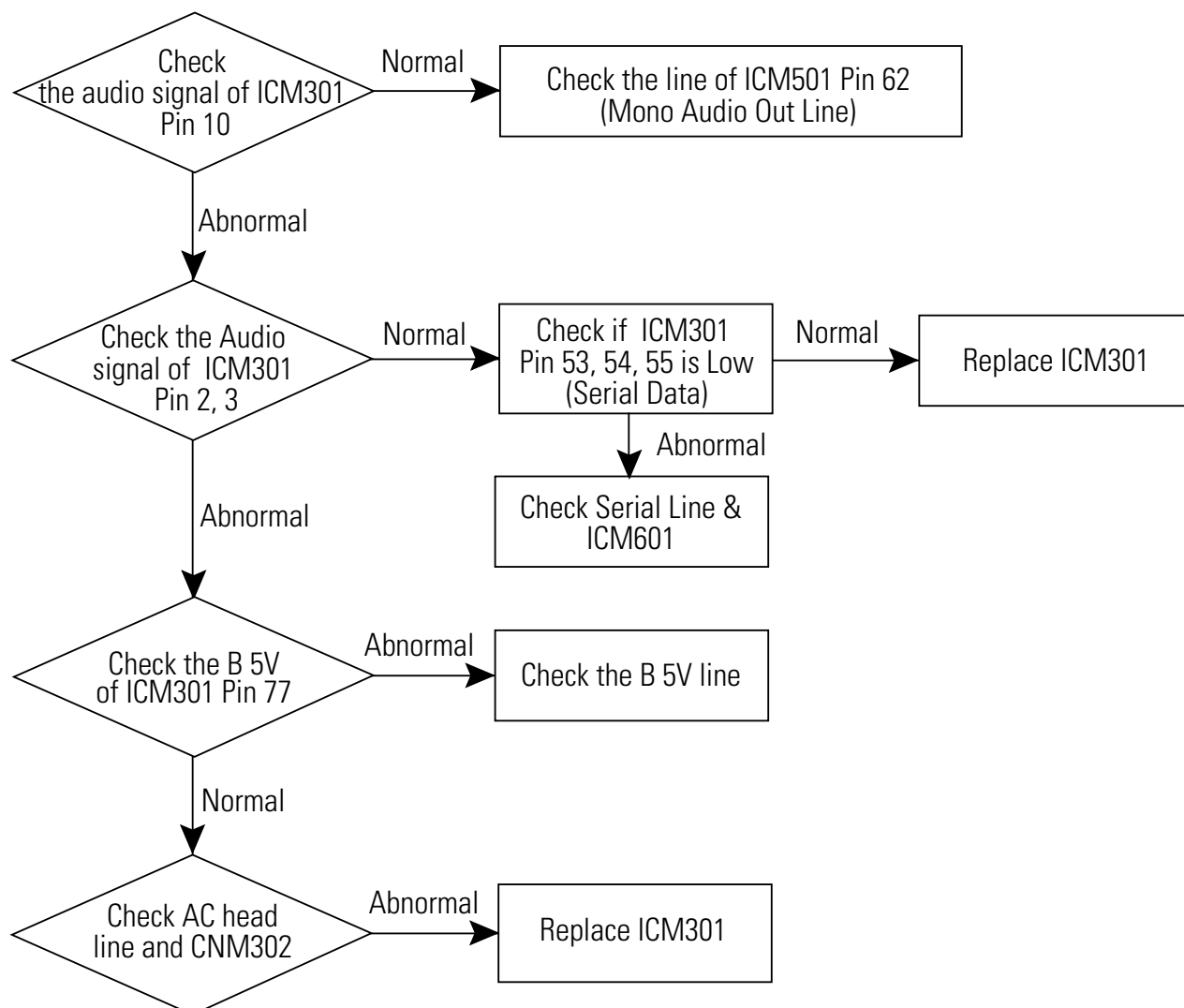
## **5-12 On-Screen Display Missing**

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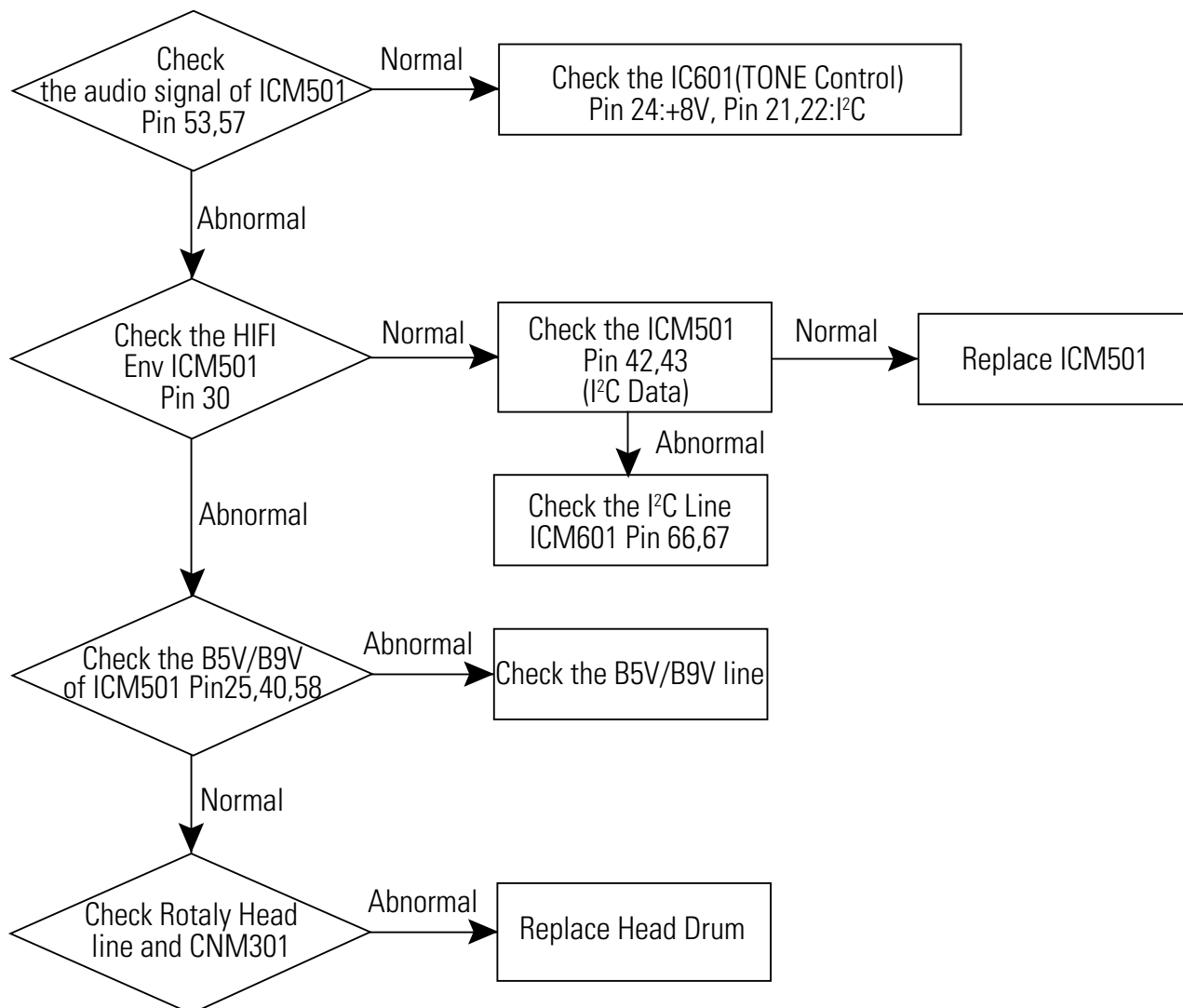
1. Check IC902 #56, #57, #58

### 5-13 No Audio During Playback (Mono Audio)

---

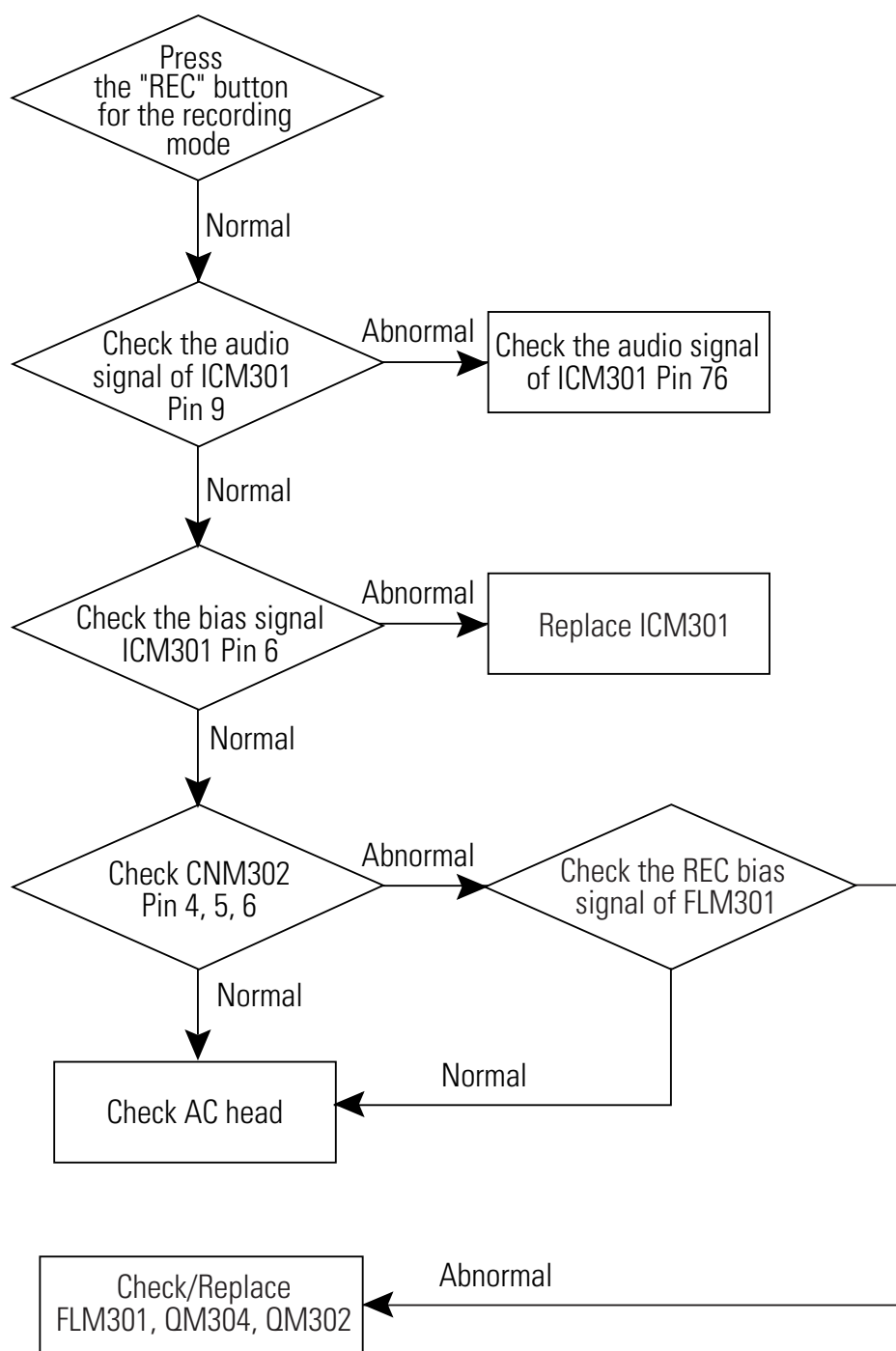


## 5-14 No Audio During Playback (HIFI)



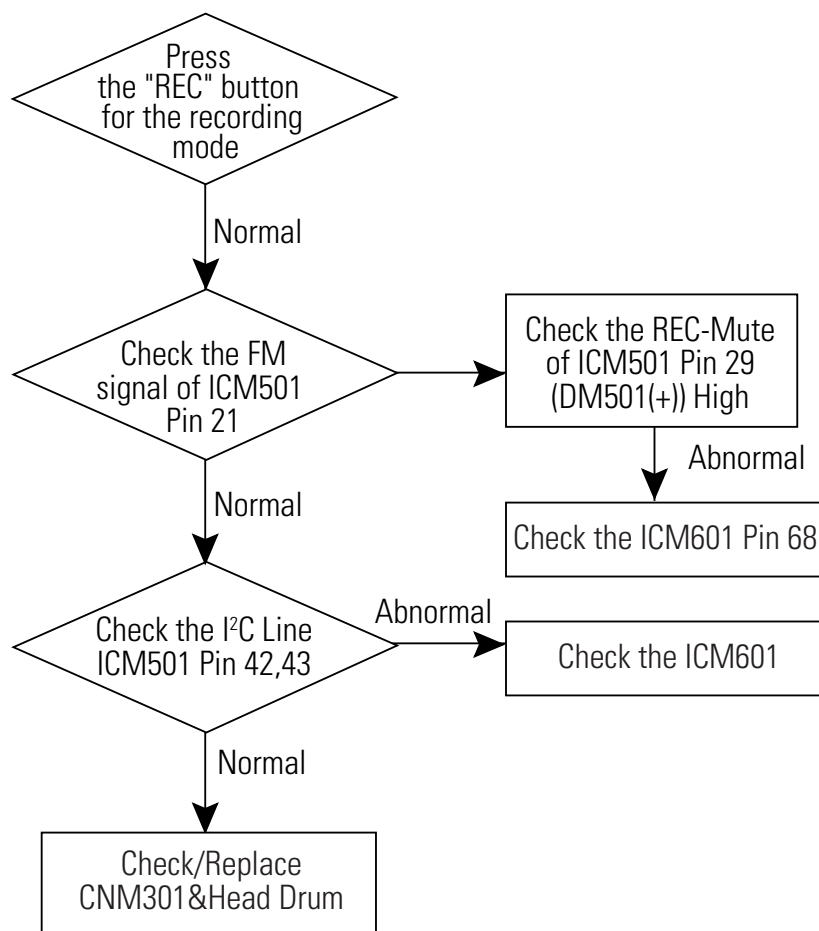
## 5-15 No Audio During Record (Mono Audio)

---

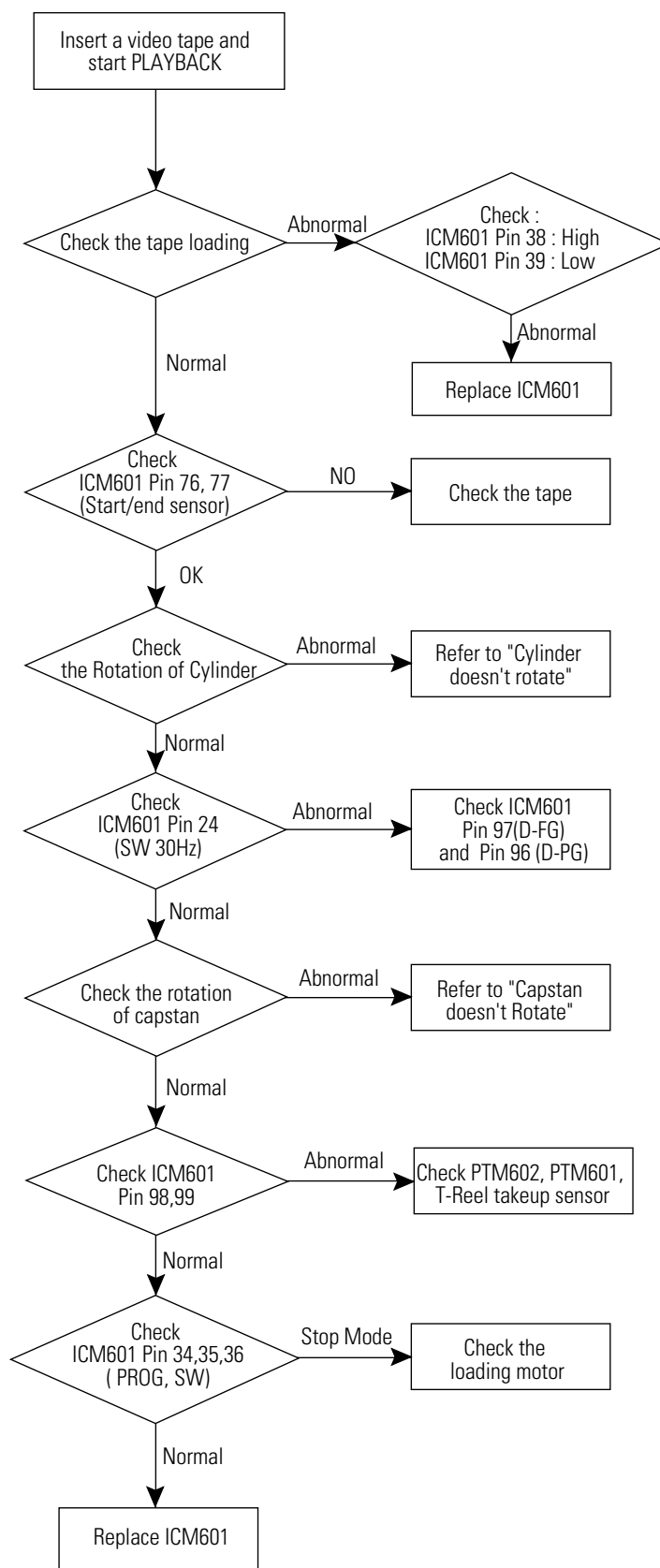


## 5-16 No Audio During Record (HIFI Audio)

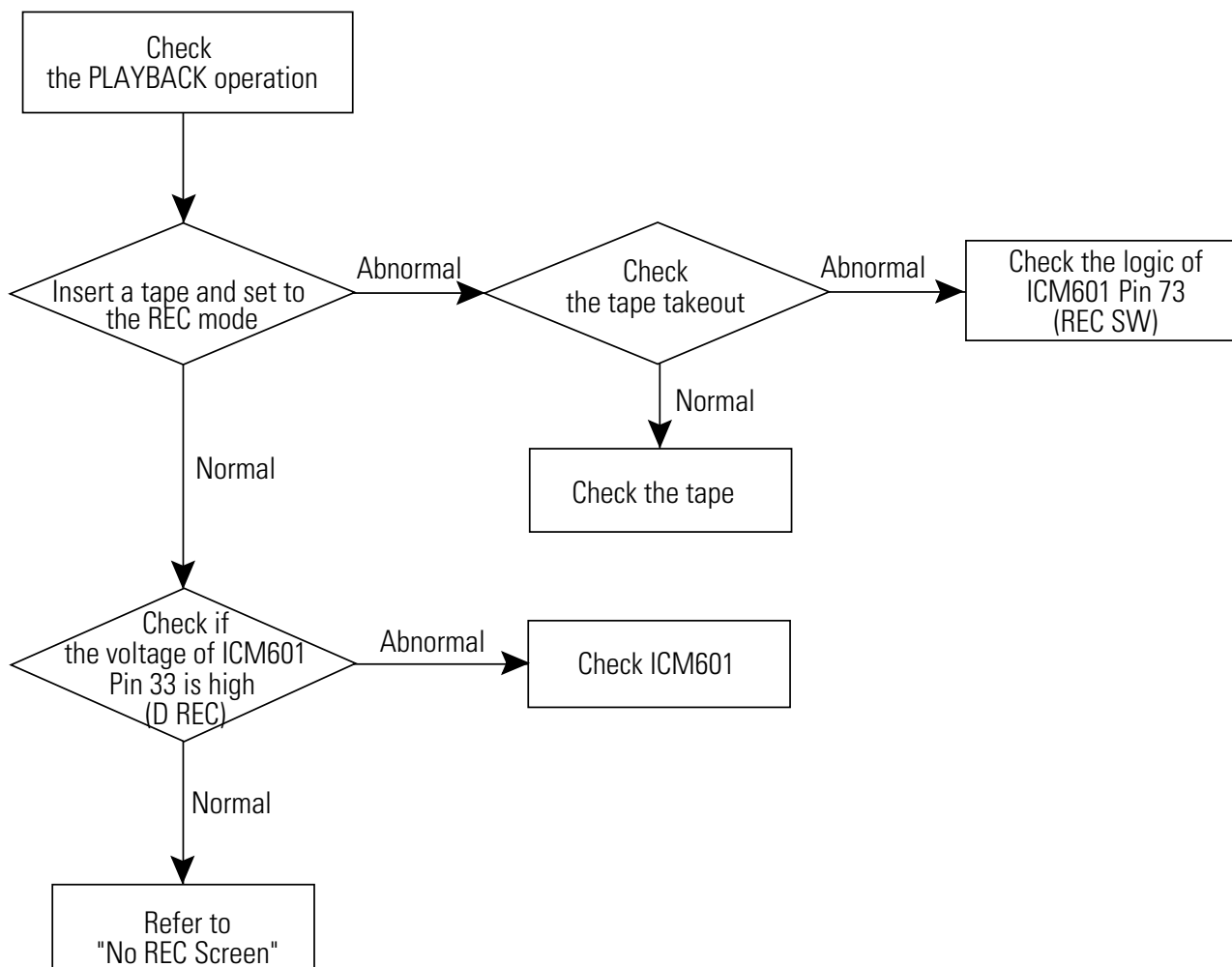
---



## 5-17 No Playback

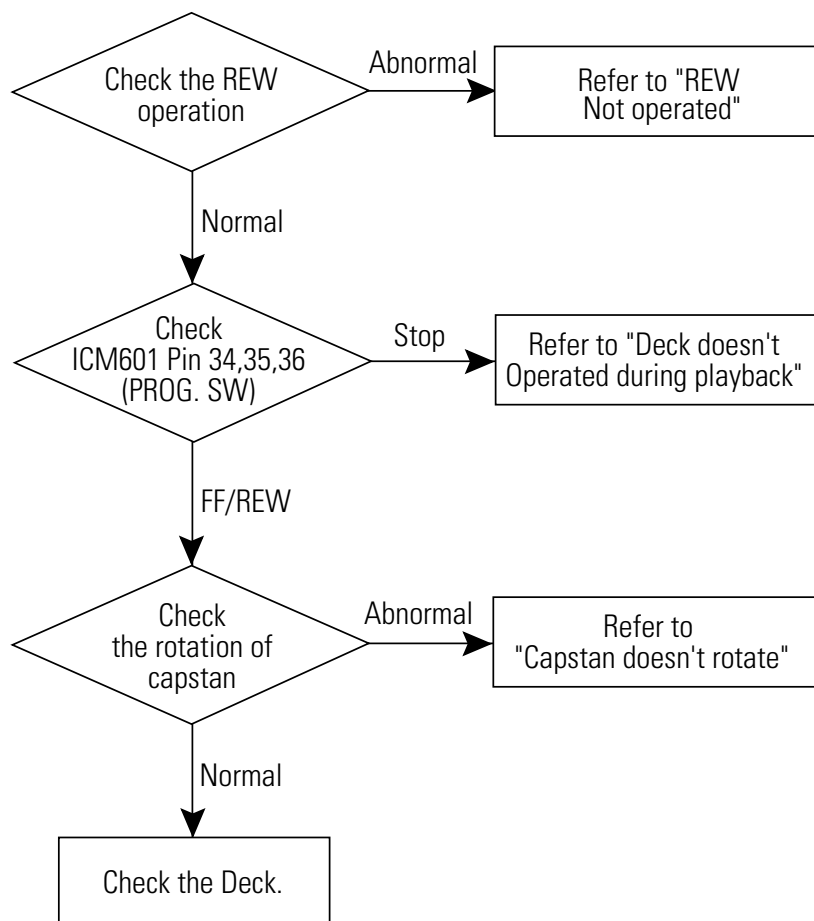


## 5-18 REC Doesn't Operate



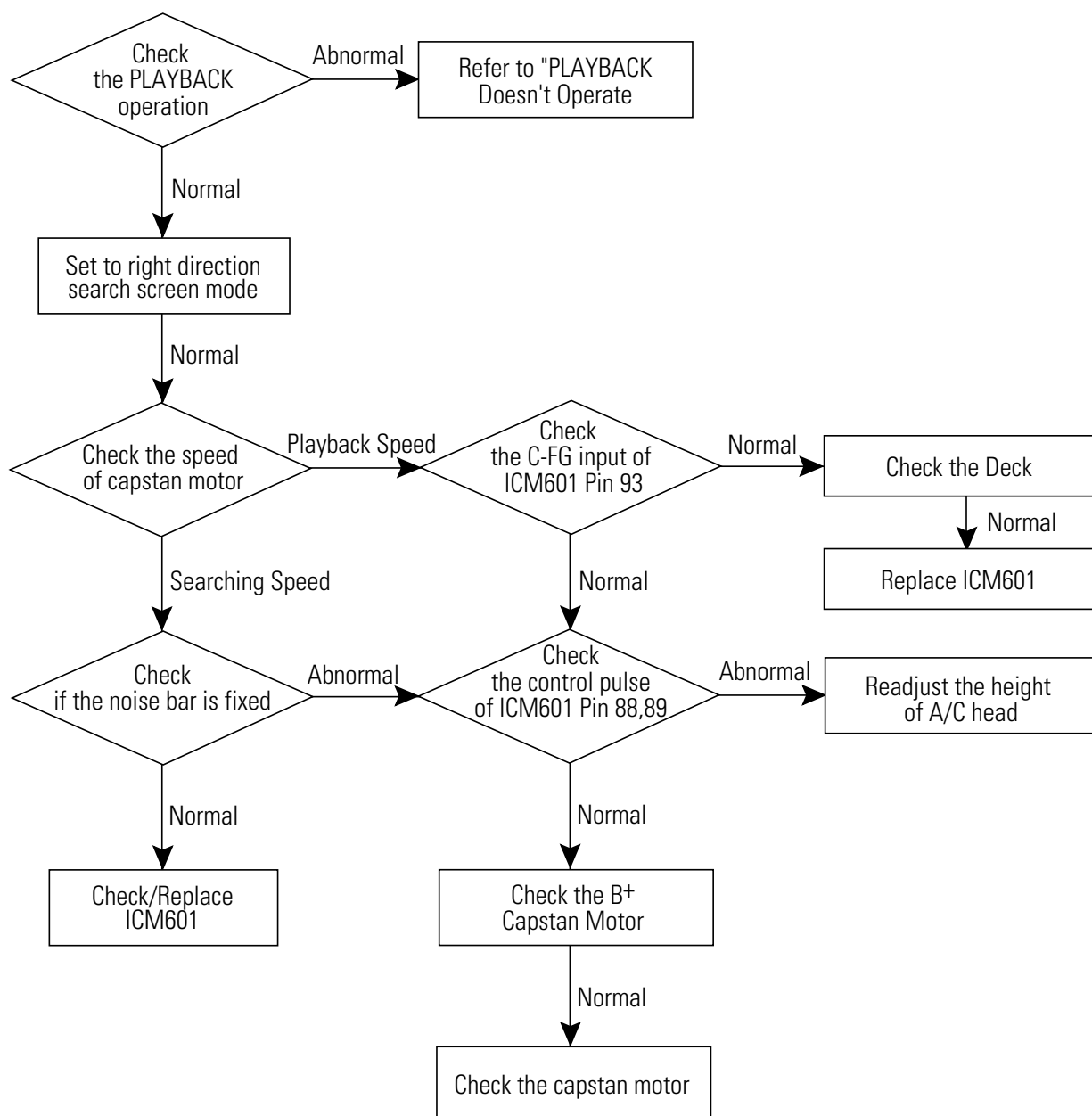
## 5-19 FF/ "REW" Doesn't Operate

---

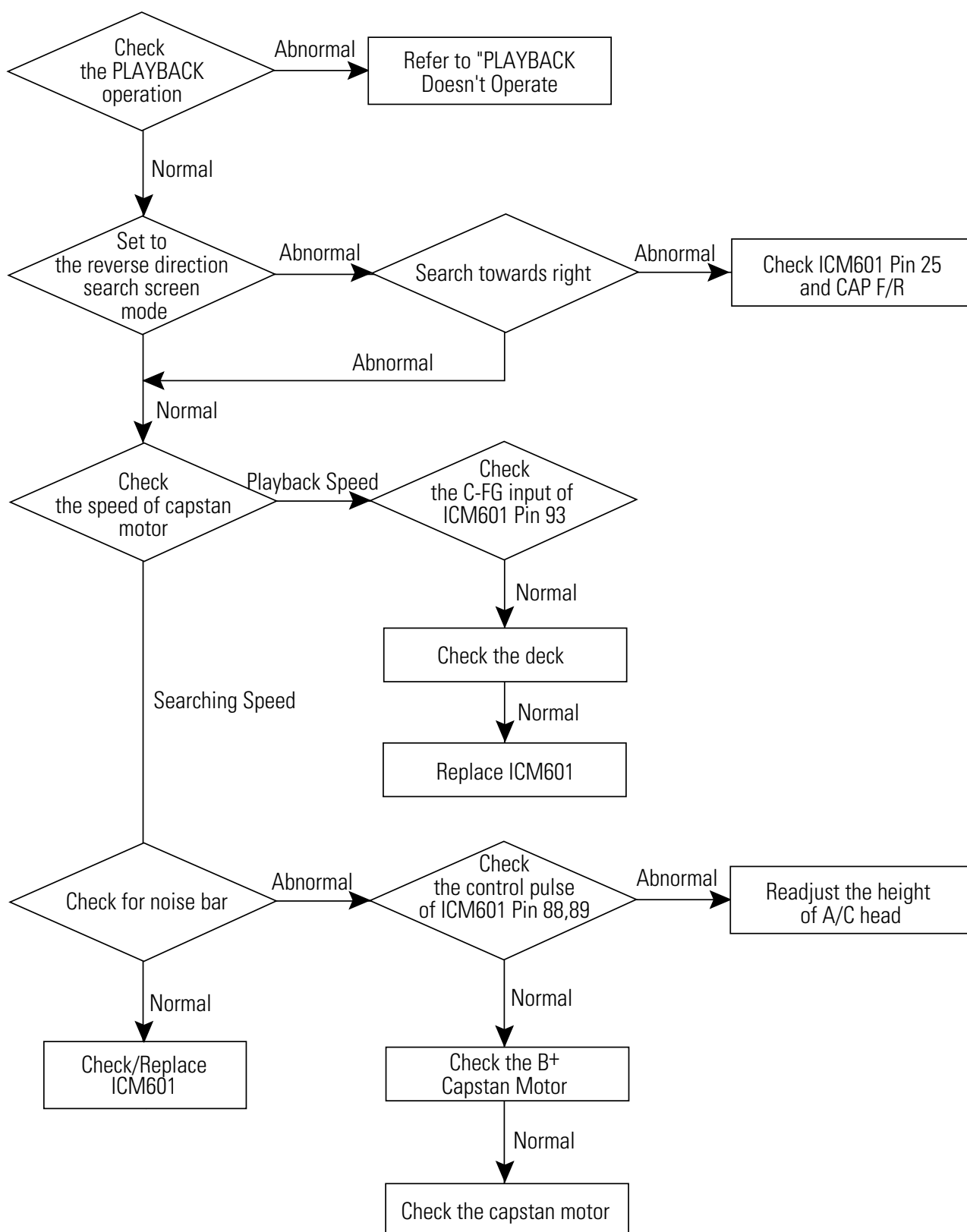




## 5-20 "Forward Direction Search

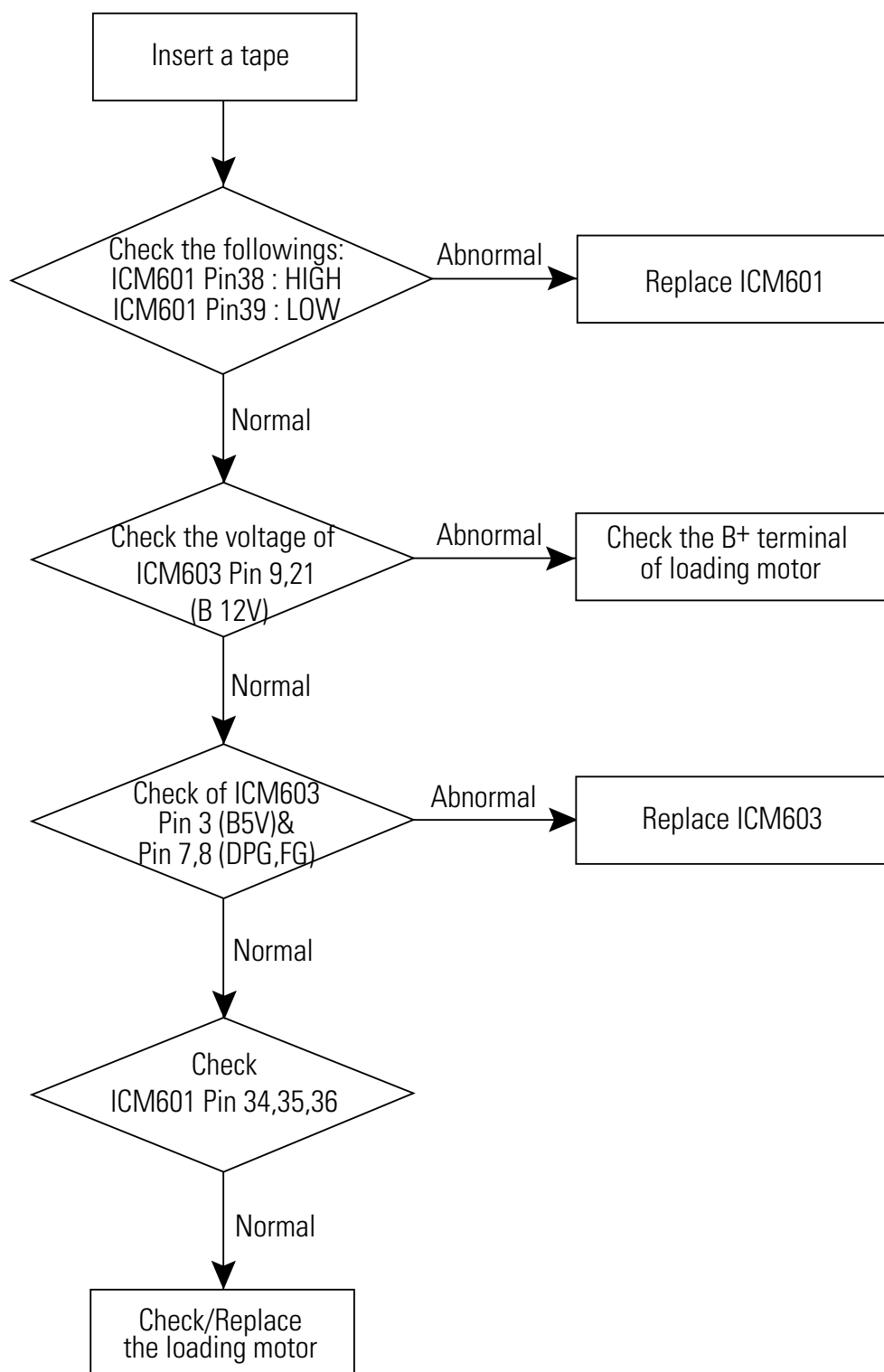


## 5-21 "Reverse Direction Search Screen" Doesn't Operate

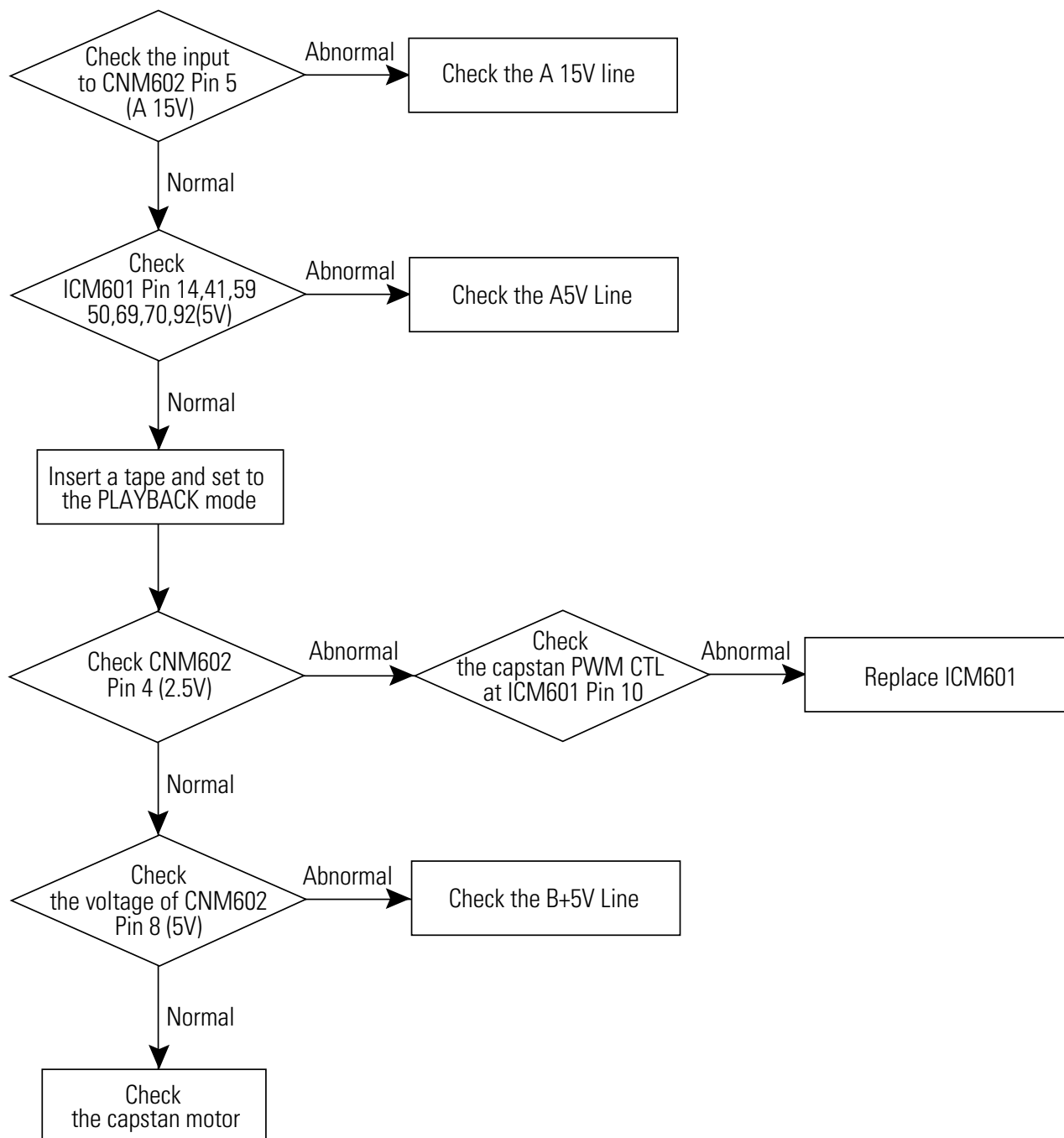


## 5-22 Tape Doesn't Load

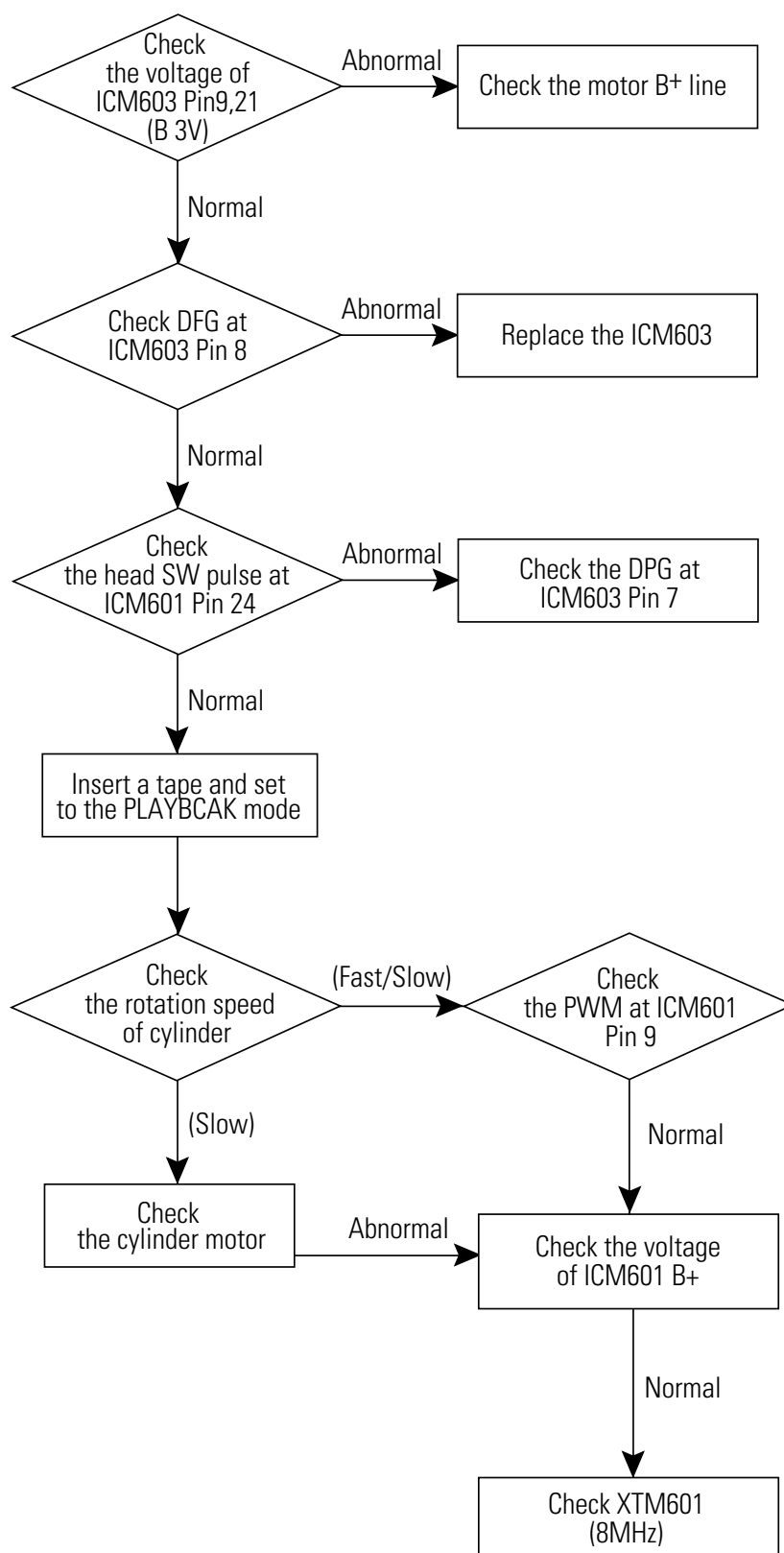
---



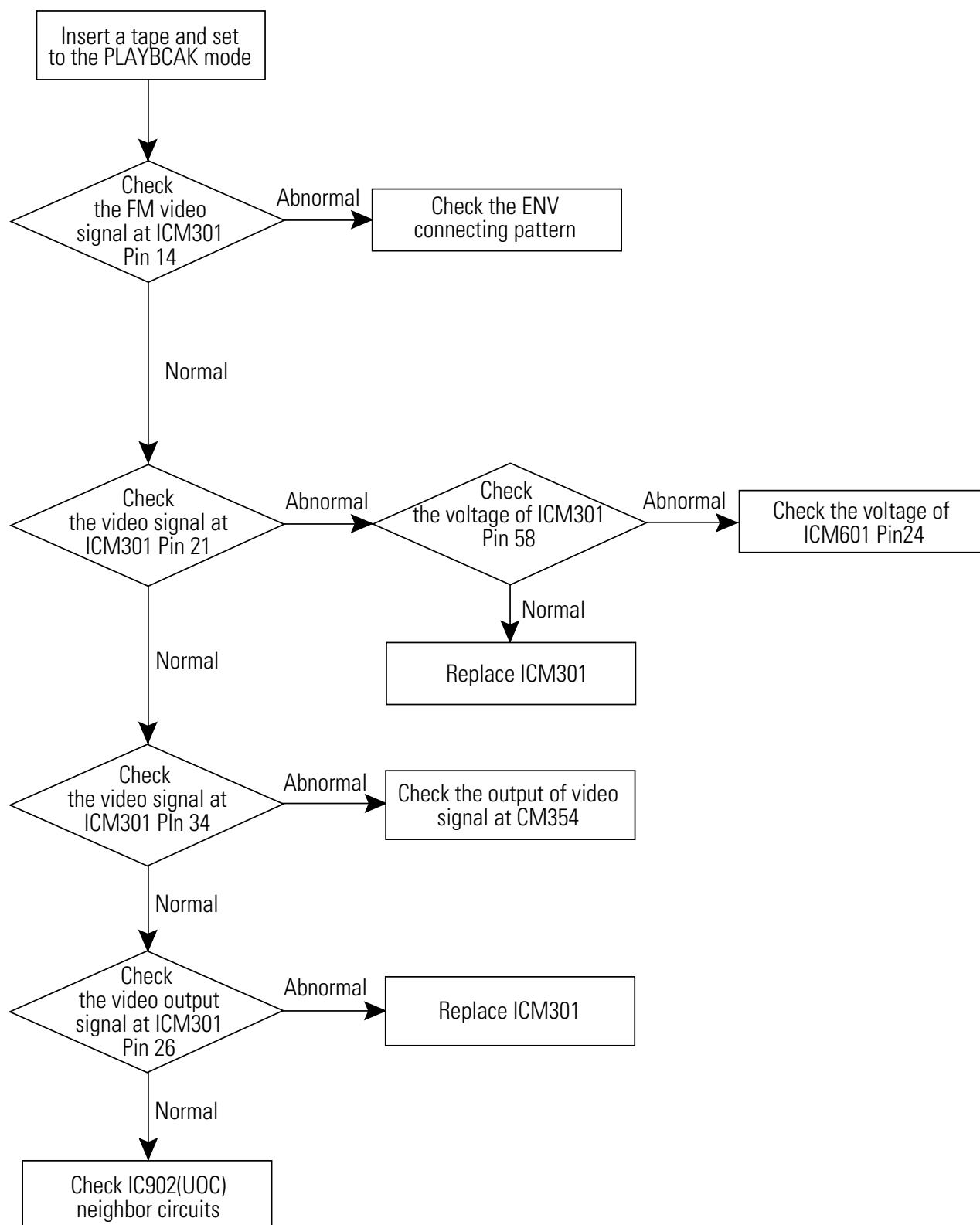
## 5-23 Capstan Doesn't Rotate



## 5-24 Cylinder Doesn't Rotate

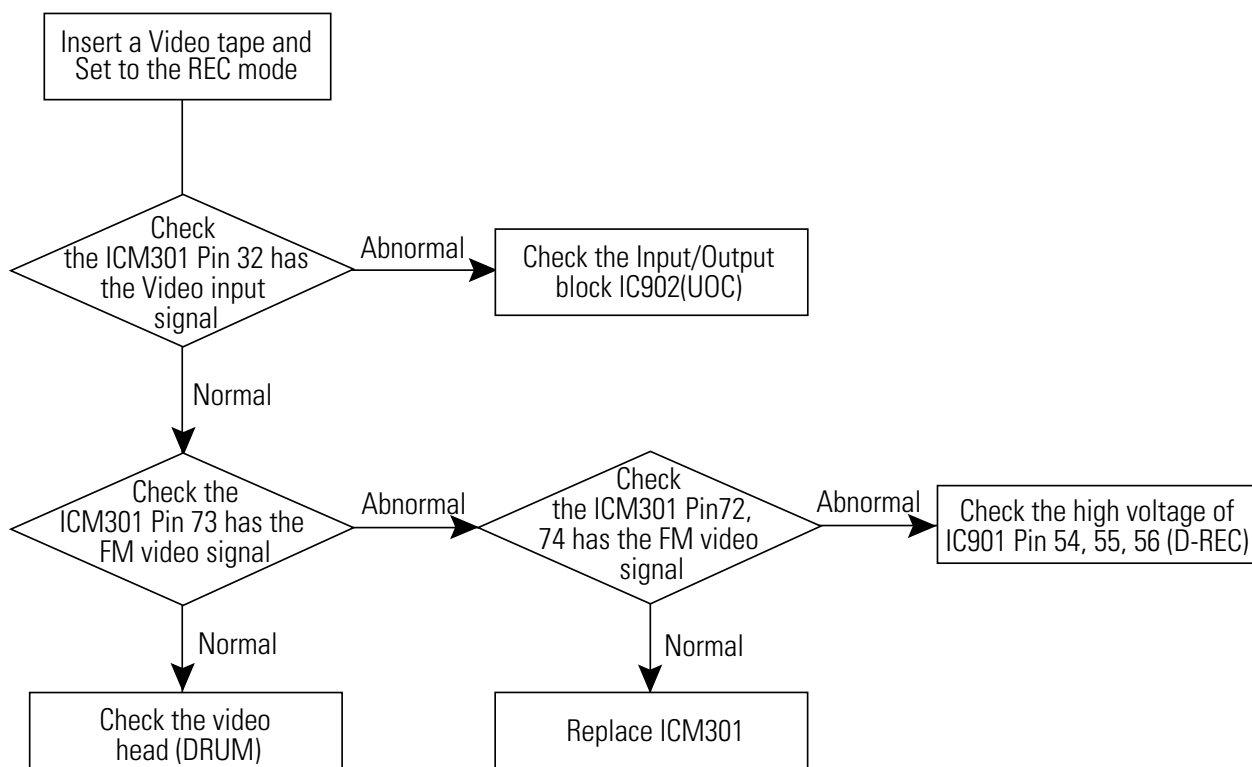


## 5-25 No Picture During Playback



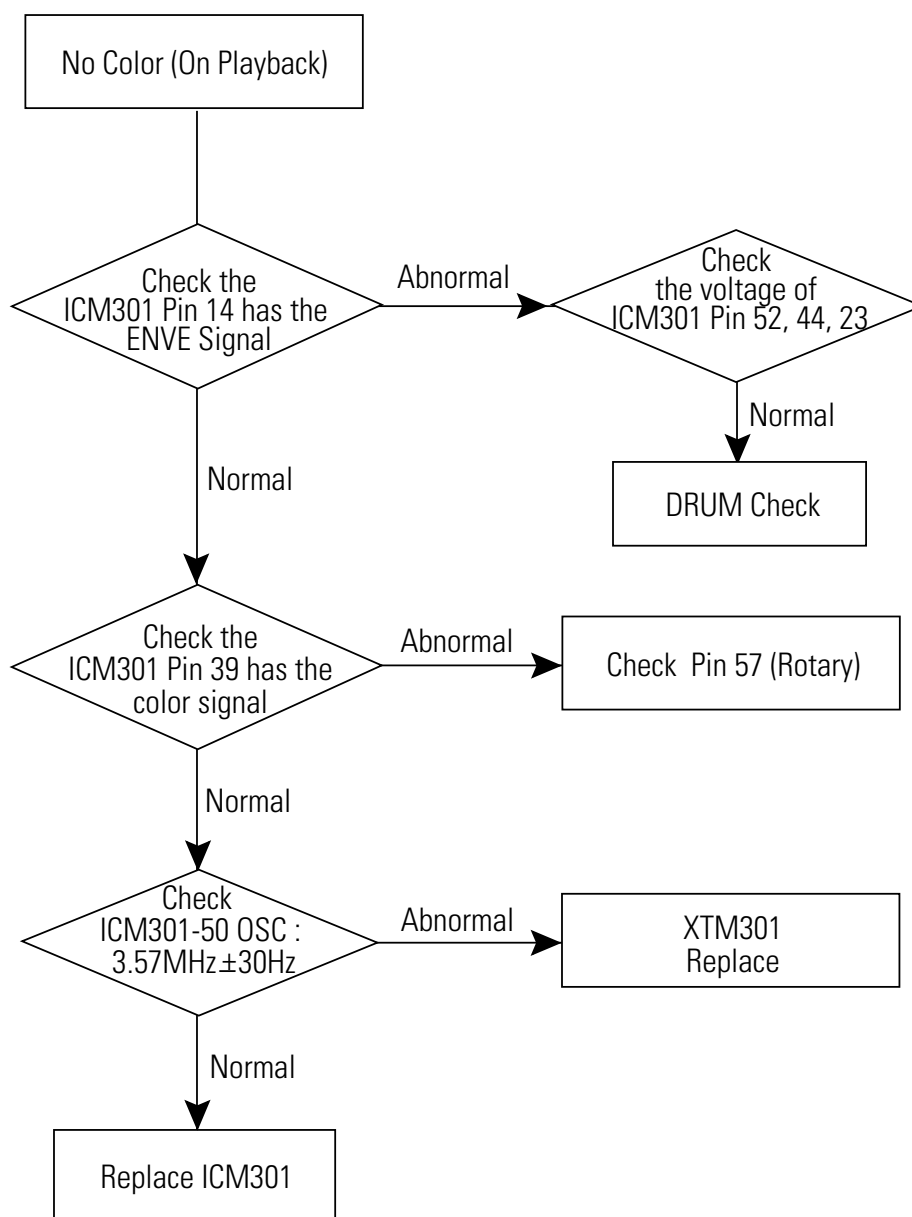
## 5-26 No Picture During Record

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## 5-27 No Color During Playback

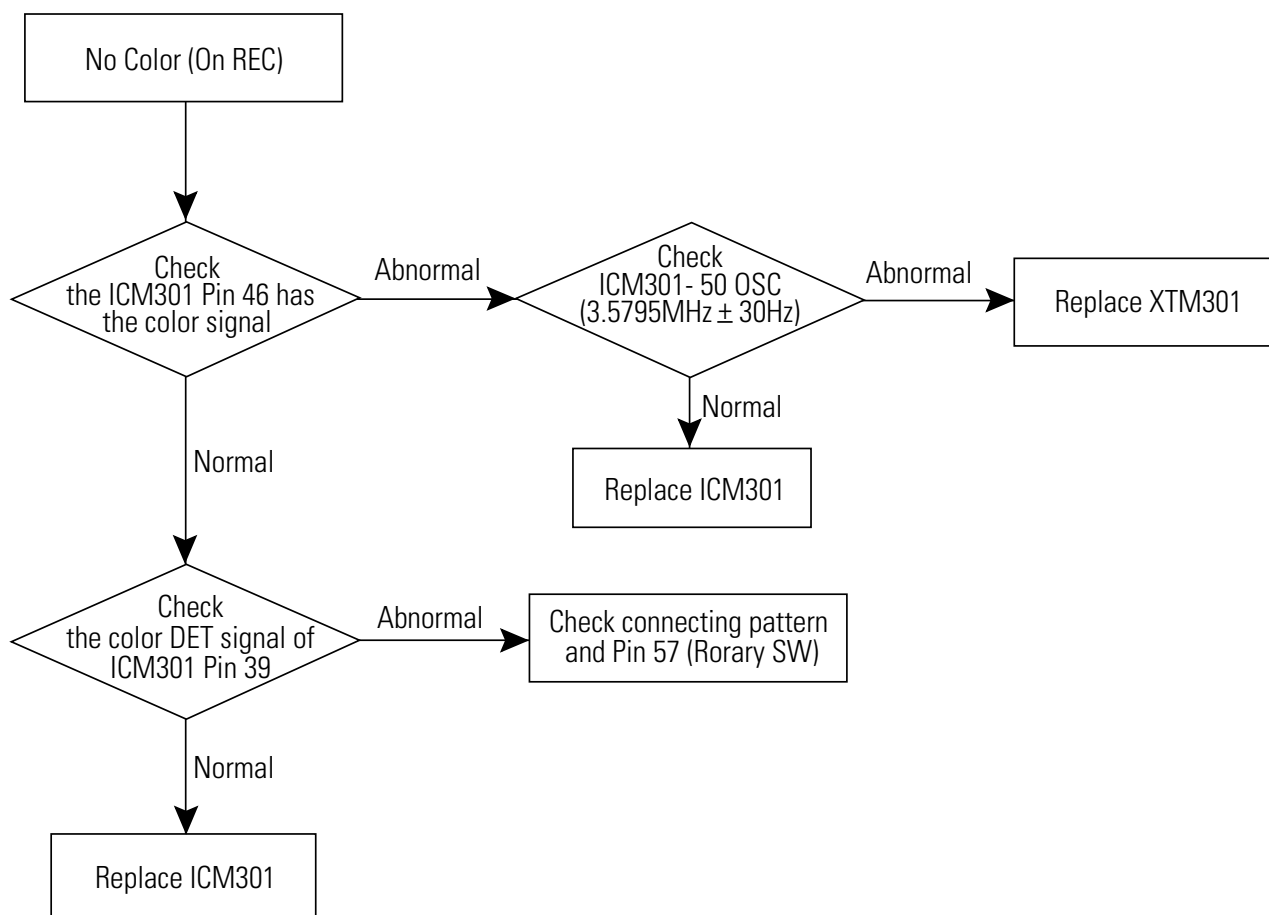
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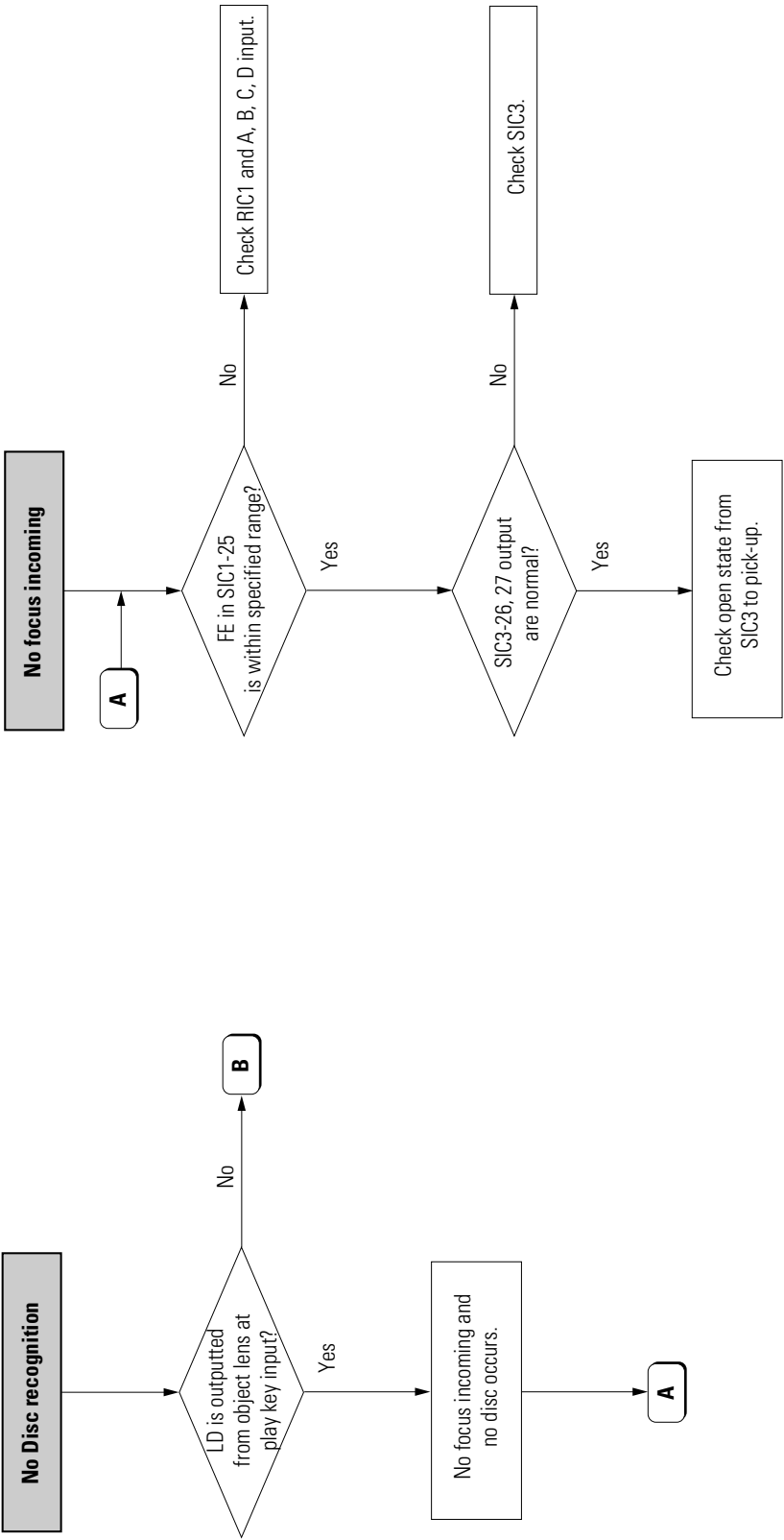


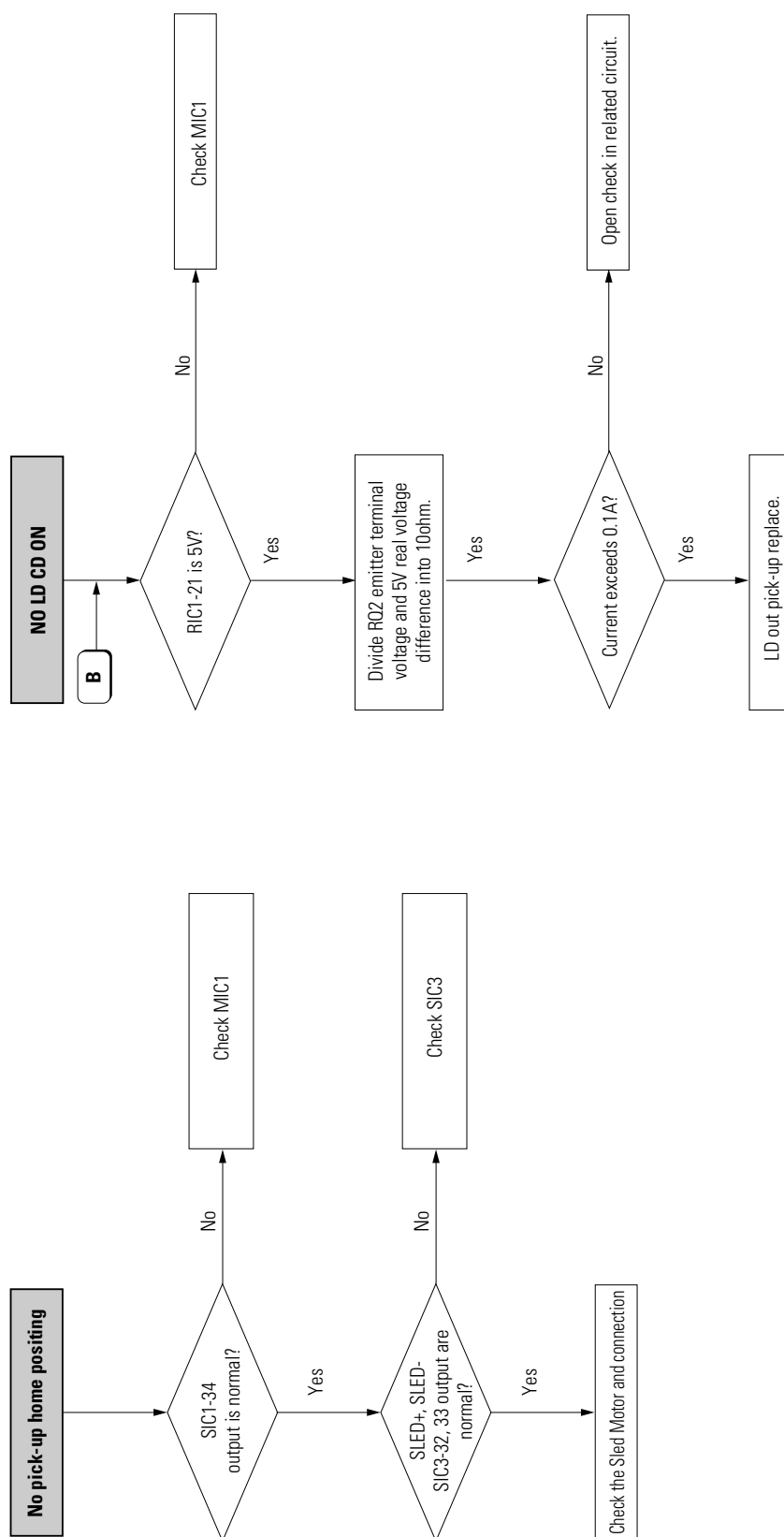
## 5-28 No Color During Record

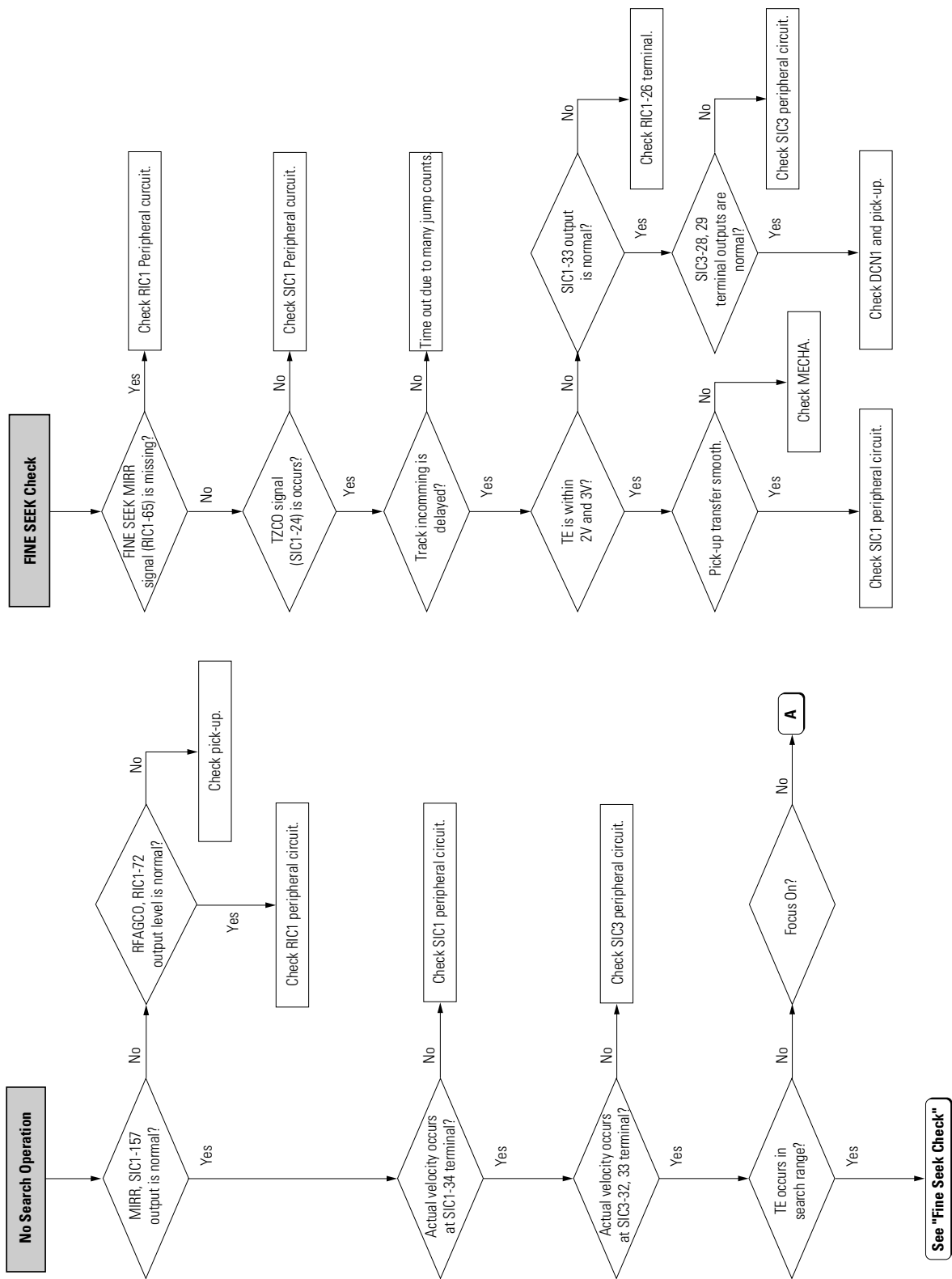
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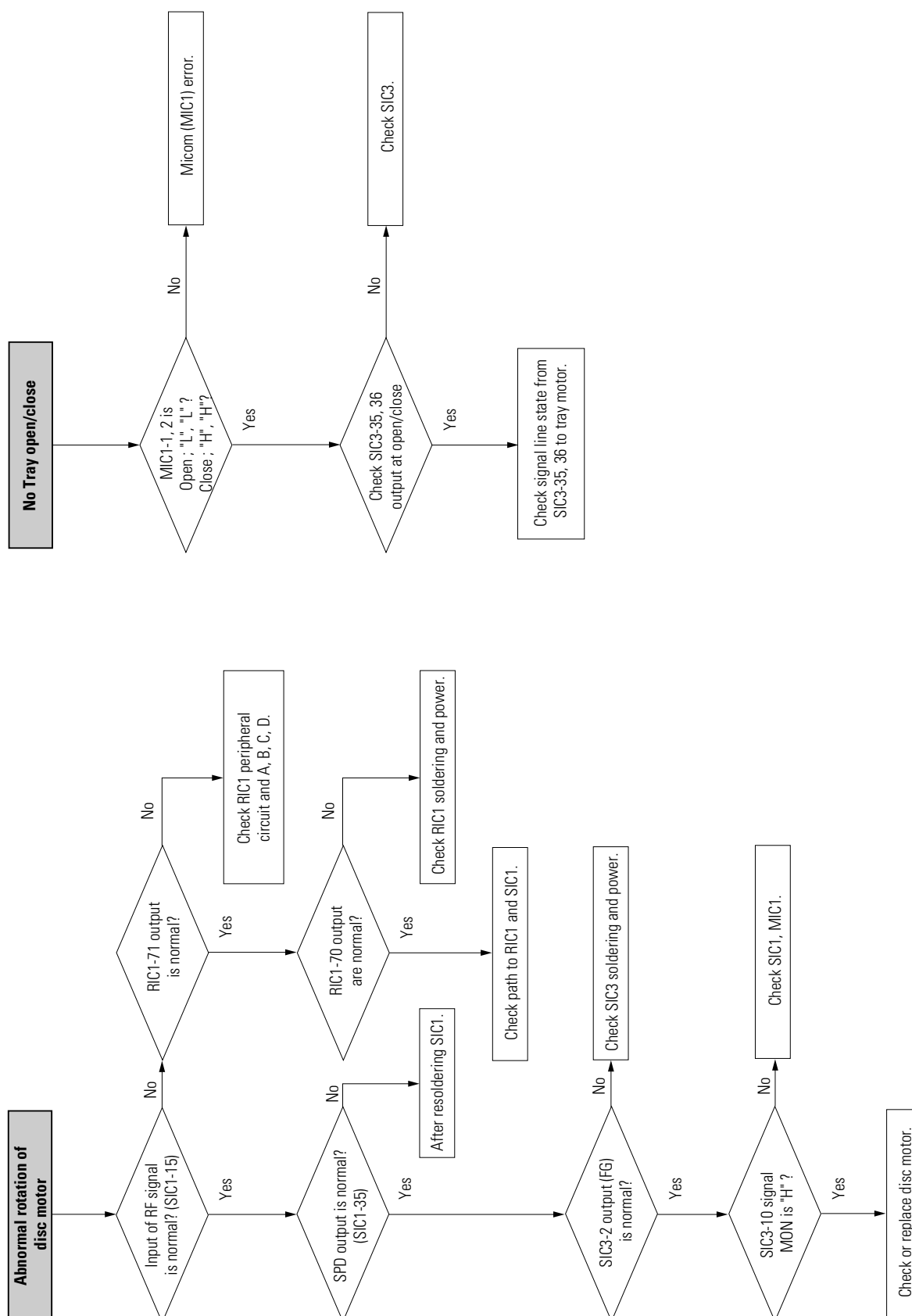


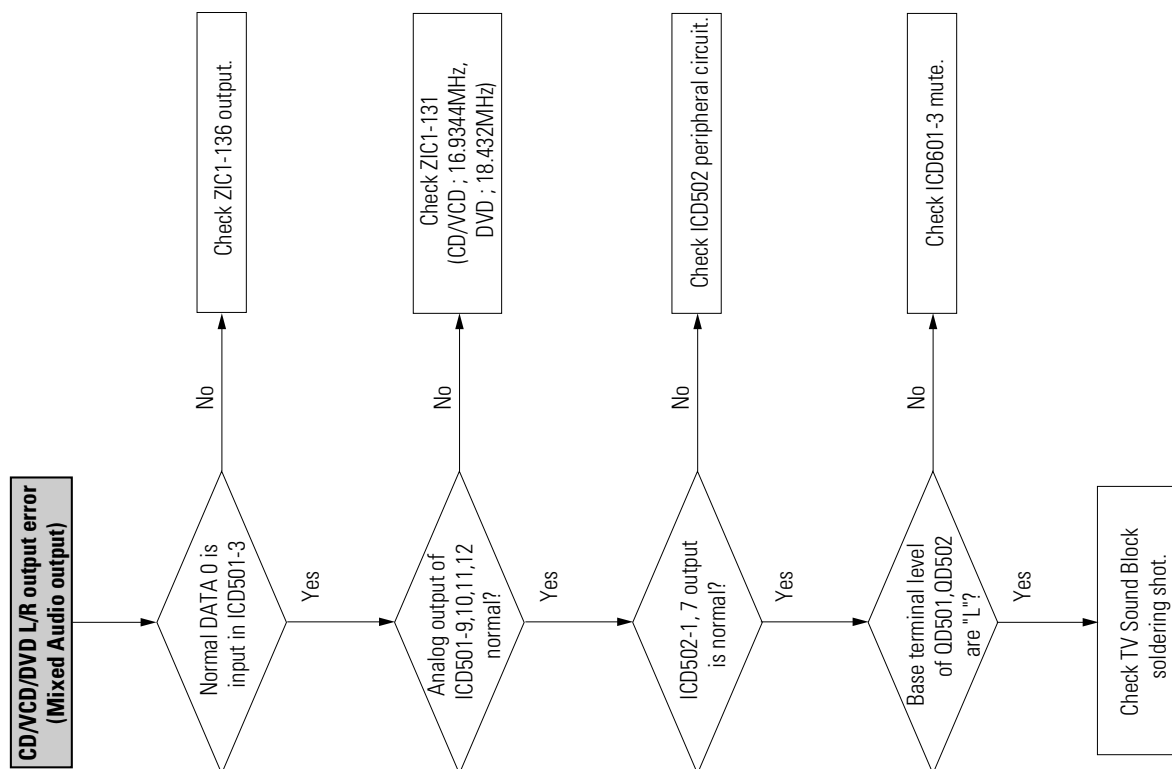
5-29 DVD Block

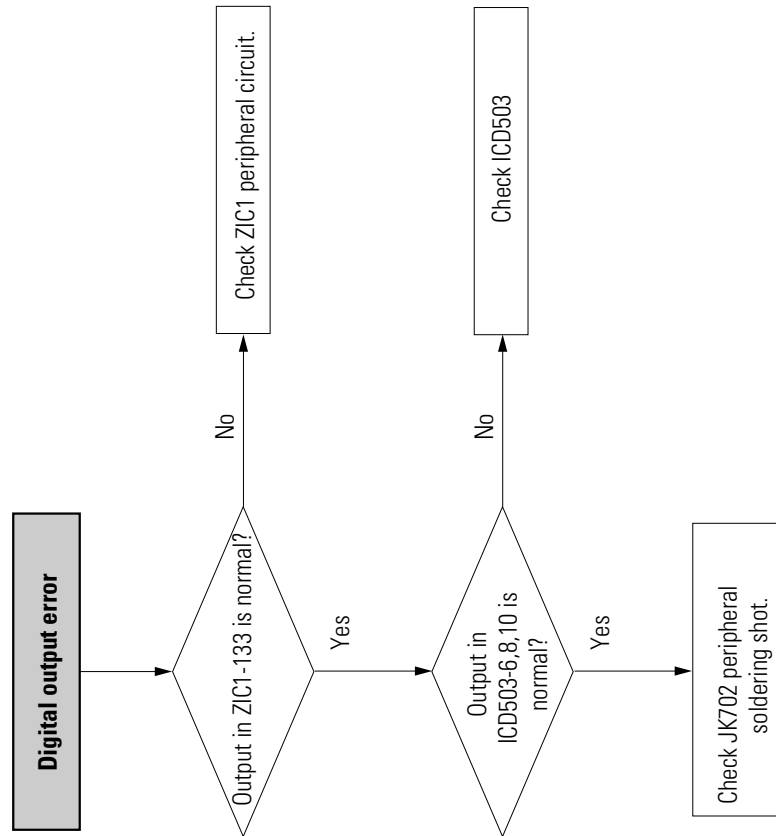






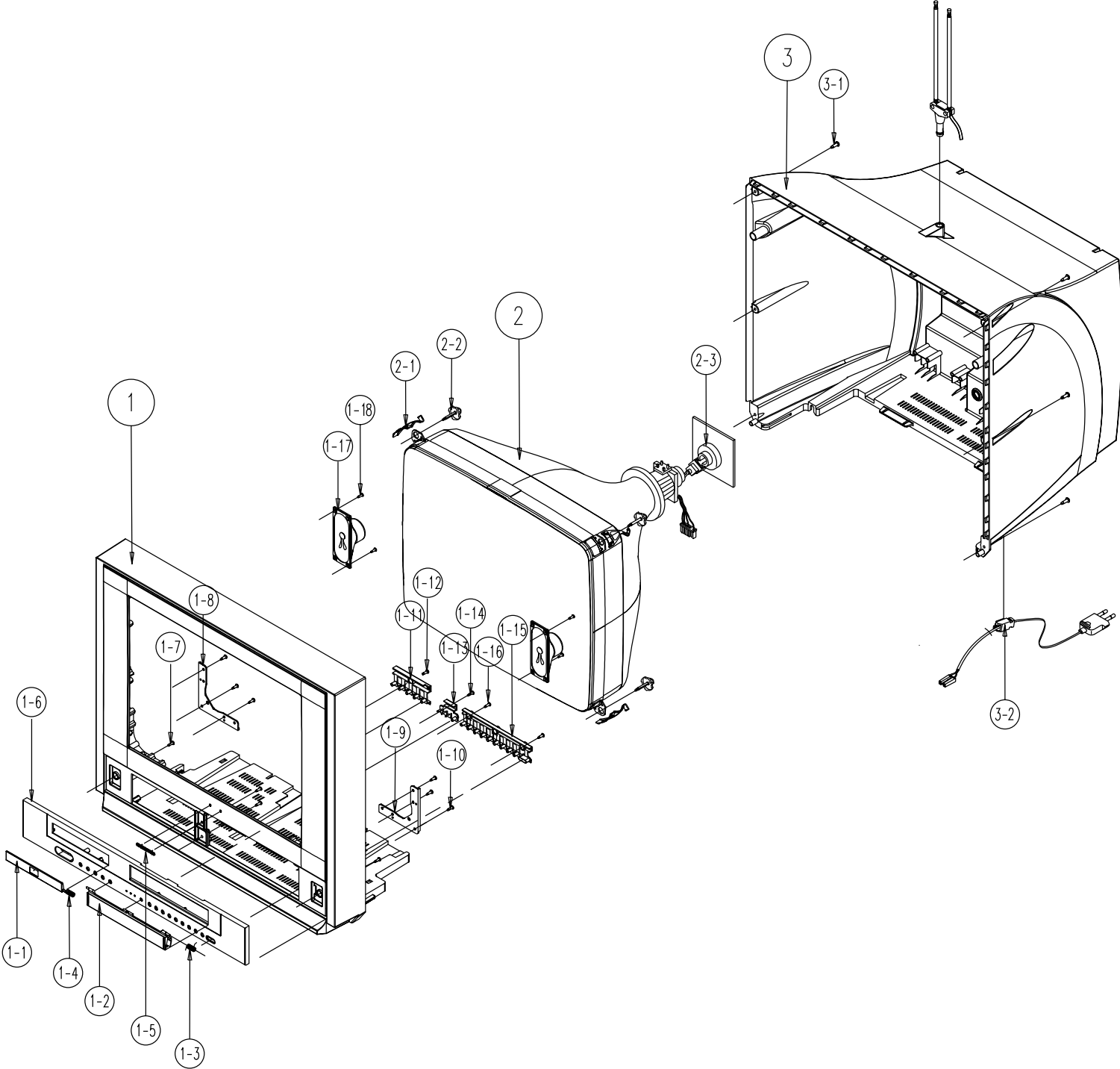






6. Exploded View & Parts List

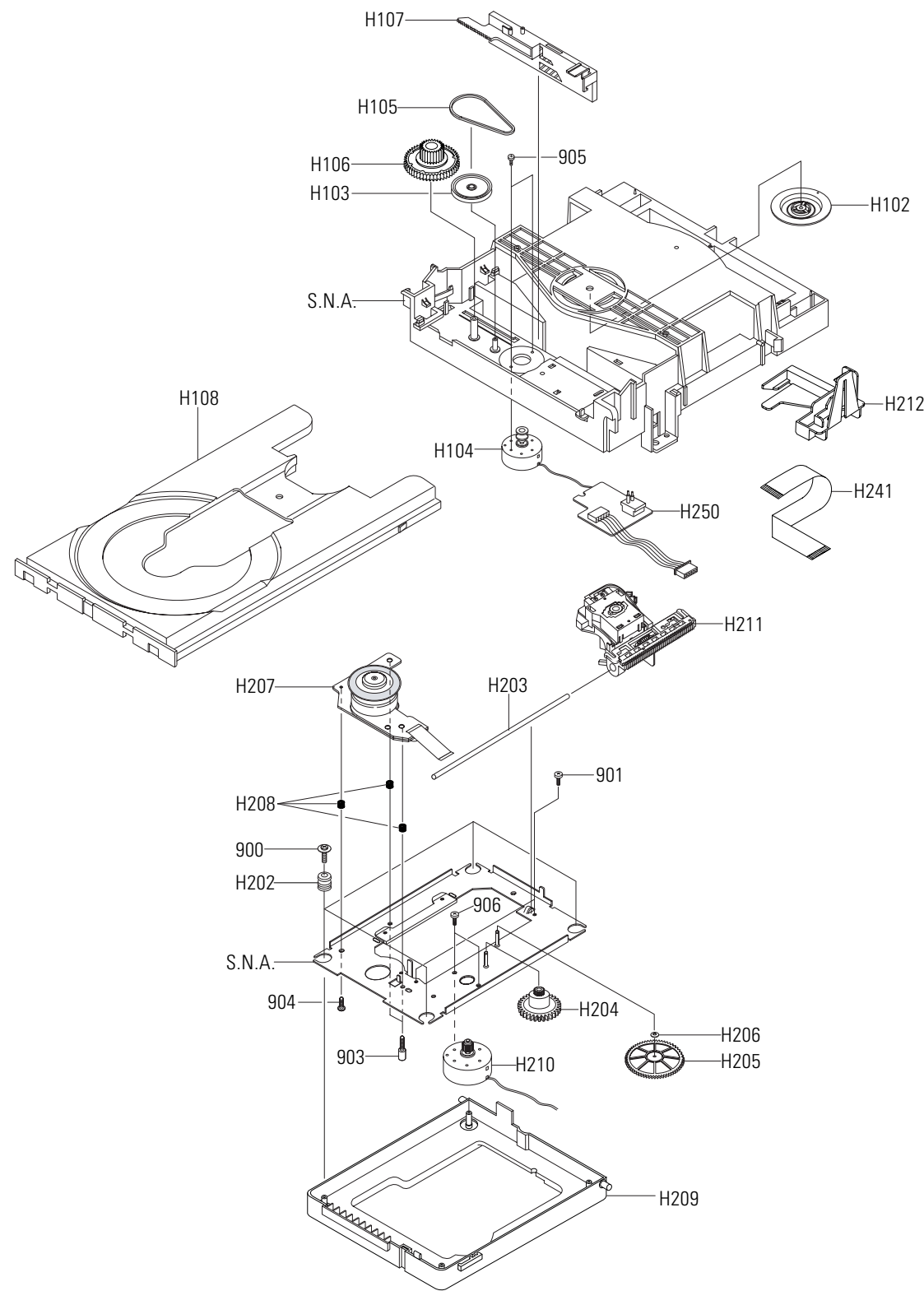
6-1 CFTD2083TX/SMS



No	Code No	Description;Specification	Q'ty	Remark	S.N.A
1	AA64-02810A	CABINET-FRONT;21J5,HIPS,V0,G4309,SV808P	1	F/C	
1-1	AA64-02814A	DOOR-TRAY;21J5,ABS HB,G4309,SV808P	1	DT	
1-2	AA64-02960A	DOOR-HOUSUNG;21J5,ABS HB,G4309,SV808P	1	DH	
1-3	AA61-01224A	SPRING ETC-DOOR,VCR;21J5,SUS304,T0.4	1	SDV	
1-4	AA61-01223A	SPRING ETC-DOOR,DVD;21J5,SUS304,T0.3	1	SDD	
1-5	AA64-02890B	BADGE-BRAND;50MM,AL FORGING,T1.5,10.0,50	1	BADGE	
1-6	AA64-02812A	PANEL-CONTROL;21J5,HIPS,V0,G4309,SV808P	1	PANEL	
1-7	6003-001026	SCREW-TAPTITE;RH,+,B,M4,L15,ZPC(BLK),SWR	4	PC+CF	
1-8	AA61-01225A	BRACKET-CRT;21J5,SECC,T2.0 1	1	BRK	
1-9	AA61-01225A	BRACKET-CRT;21J5,SECC,T2.0 1	1	BRK	
1-10	AA60-10050T	SCREW-TAPPING;RH,+,2S,M4,L20,ZPC(BLK),SW	6	BRKT+C	
1-11	AA64-02816A	KNOB-DVD;21J5,ABS,HB,G3676,DG703P+W971		KD	
1-12	6003-001026	SCREW-TAPTITE;RH,+,B,M4,L15,ZPC(BLK),SWR	1	KD+CF	
1-13	AA64-02819A	WINDOW-LED;21J5,PC,CLR	1	WL	
1-14	6003-001026	SCREW-TAPTITE;RH,+,B,M4,L15,ZPC(BLK),SWR	1	WR+CF	
1-15	AA64-02815A	KNOB-FAMILY;21J5,ABS,HB,G3676,DG703P+W97	1	KF	
1-16	6003-001026	SCREW-TAPTITE;RH,+,B,M4,L15,ZPC(BLK),SWR	2	KF+CF	
1-17	3001-001020	SPEAKER;3W,8ohm,90dB,140Hz	2	SPK	
1-18	6003-001026	SCREW-TAPTITE;RH,+,B,M4,L15,ZPC(BLK),SWR	4	SPK+CF	
2	AA03-00317A	CRT COLOR;A51QDX992X,0MG,1.85MH,18.0MH,2	1	CRT	
2-1	AA65-00009B	CLAMP-D,COIL;NYLON 66,V0,-,21A8,-	4	CDCOIL	
2-2	AA60-10050R	SCREW-ASSY;WC,HH,+,M5,L31.5,SWR	4	CRT+CF	
2-3	3704-001105	SOCKET-CRT;11P,20PI,26.5PI,NI,-	1	V999S	
3	AA64-02811A	CABINET-BACK;21J5,HIPS,V0,BLK	1	B/C	
3-1	AA60-10050T	SCREW-TAPPING;RH,+,2S,M4,L20,ZPC(BLK),SW	6	CB+CF	
3-2	AA96-20129K	ASSY POWER CORD;EP2/YES,H/S 450MM,KJ10W	1	PWR/AC	



6-2 DVD Deck Assembly



Loc. No	Parts No.	Description ; Specification	Remark
900	6003-001157	SCREW-TAPTITE;PWH,+,B,M2,L6,ZPC(YEL),SWR	
901	6001-001522	SCREW-MACHINE;FH,+,M2.6,L7,ZPC(YEL),SWRC	
903	6009-001245	SCREW-SPECIAL;SWRCH18A,NYLOCK,SOCKET,HEX	
904	6001-001466	SCREW-MACHINE;BH,+,M2,L6,ZPC(BLK),SWRCH1	
905	6001-001257	SCREW-MACHINE;PWH,+,M1.7,L3,ZPC(YEL),SWR	
906	AH60-00010A	SCREW-MACHINE-MOTOR;-+,SWCH18AK,M1.7,L2	
H102	AH66-00111B	CLAMPER-ASSY;DP-5,POM+MAGNET,-,-,-,-,-	
H103	AH66-00123A	PULLEY-GEAR;DP-7,POM M90-44,-,-,-,-,-	
H104	AH31-00024A	MOTOR-LOAD ASSY;SM-2412L2,DP-7,-,-,-,-,-	
H105	6602-001076	BELT-RECTANGULAR;CR,T1.2,4.3%,1.2X25.1,B	
H106	AH66-00124A	GEAR-TRAY;DP-7,POM,M90-44,-,-,-,-,-	
H107	AH66-00125A	LIDER-HOUSING;DP-7,POM,-,-,-,-,-	
-H108	AH63-00217A	RAY-DISC;-ABS,-,-,-,-,BLK,DP-7	
H202	AH73-00023A	RUBBER-INSULATOR;BUTYL RUBBER,-,DP-3,	
H203	AH61-50327A	SHAFT-P/U;DP-3,SUS420J2,L84.7,OD3,-,-,-	
H204	AH66-00075A	GEAR-FEED A;-POM M90-44,-,-,-,-,-	
H205	AH66-00170A	GEAR-FEED B;DP-7S,POM M90-44,0.5,14,-,-,	
H206	AC60-30306A	WASHER-SLIT;-,-,ID2.1,OD5.0,T0.5,-,POLYS	
H207	AH31-00032A	OTOR-SPINDLE ASSY;RSM-2610F1,DP-7S,-,-,	
H208	AH61-00403A	SPRING ETC-SPINDLE;DP-5,SWPB,PI4.9,-,-,-	
H209	AH61-00513A	CHASSIS-SUB;DP-7,ABS(SR-0320),-,-,-,-,-	
H210	AH31-00016A	MOTOR-FEED ASSY;-,-,DP-5,-,-	
H211	AH97-00961A	ASSY-PICK UP;-,-,SOH-DS2,SEM,W/T	COMMON
	AH97-00900A	ASSY-PICK UP;-,-,SOH-DS2,ASSY-PICK-UP	CIS ONLY
H212	AH61-00891A	HOLDER-FFC;DP-7S,PP,1,-,-,-,NTR,-	
H241	3809-001303	CABLE-FLAT;30V,80C,230MM,24P,1MM,UL2896	
H250	AH92-00900A	ASSY-HOUSING PCB;DVD-M101,MILLENO DECK(B	

## 7. Electrical Parts List

### 7-1 CFTD2083TX/SMS

Level	Loc. No.	Code No.	Description ; Specification	Remark	Level	Loc. No.	Code No.	Description ; Specification	Remark
<b>ASSY CHASSIS</b>					4	QM304	0501-000010	TR-SMALLSIGNAL;KSC1008,NPN,80V	
1	A/CHAS	AA91-05214A	ASSY CHASSIS;CFTD2083TX/SMS,V18A		4	Q203	0501-000283	TRANSISTOR;KSA539-Y(TAPG)/YTAM	
2	A/MAIN	AA94-11151A	ASSY PCB MAIN;TORNADO,V18A		4	Q701	0501-000283	TRANSISTOR;KSA539-Y(TAPG)/YTAM	
3	PTM601	0604-001122	PHOTO-INTERRUPTER;TR,0.065%,150mW,DIP-4,		4	Q702	0501-000283	TRANSISTOR;KSA539-Y(TAPG)/YTAM	
3	PTM602	0604-001122	PHOTO-INTERRUPTER;TR,0.065%,150mW,DIP-4,		4	Q703	0501-000283	TRANSISTOR;KSA539-Y(TAPG)/YTAM	
3	ICM603	1003-001318	IC-MOTOR DRIVER;LB11880,DIP,30P,417MIL,-		4	QM303	0501-000303	TR-SMALLSIGNAL;KSA733,PNP,250M	
3	JK702	3707-001005	CONNECTOR-OPTICAL;PLUG,SM,-,4,4/2.0MM		4	QM305	0501-000303	TR-SMALLSIGNAL;KSA733,PNP,250M	
3	CNM301	3708-000391	CONNECTOR-FPC/FFC/PIC;10P,1.25mm,STRAIGH		4	QM307	0501-000303	TR-SMALLSIGNAL;KSA733,PNP,250M	
3	CNM302	3708-000394	CONNECTOR-FPC/FC/PIC;6P,1.25mm,STRAIGHT,		4	QM308	0501-000303	TR-SMALLSIGNAL;KSA733,PNP,250M	
3	CNM604	3708-001053	CONNECTOR-FPC/FC/PIC;7P,1.2MM,		4	Q901	0501-000362	TRANSISTOR;KSC2328A-Y/2SC2655-	
3	CNM303	3710-001648	CONNECTOR-SOCKET;2P,1R,2.5mm,STRAIGHT,SN		4	QM101	0501-000362	TRANSISTOR;KSC2328A-Y/2SC2655-	
3	CN005	3711-002642	POST-HEADER;67094-003(AUTO)		4	QM104	0501-000362	TRANSISTOR;KSC2328A-Y/2SC2655-	
3	CN004	3711-003051	CONNECTOR-HEADER;BOX,8P,1R,2.5MM,STRAIGH		4	QM105	0501-000362	TRANSISTOR;KSC2328A-Y/2SC2655-	
3	CNM602	3711-003749	4320ECTOR-HEADER;BOX,8P,2R,2mm,STRAIGHT,		4	QM306	0501-000398	TR-SMALLSIGNAL;KSC945,NPN,60V,	
3	CN701	3711-003973	CONNECTOR-HEADER;BOX,11P,1R,2.5mm,STRAIG		4	QM301	0501-000442	TR-SMALL SIGNAL;KTC3203-Y,NPN,400mW,T0-9	
3	JK701	3722-001215	JACK-PIN;9P(6P),3.4mm,SN,BLK,#16-22		4	QM302	0501-000442	TR-SMALL SIGNAL;KTC3203-Y,NPN,400mW,T0-9	
3	CNM32A	3809-001206	CABLE-FLAT;30V,-20to+80C,140mm,6P,1.25mm		4	QM103	0504-000118	TR-DIGITAL;KSR1003,NPN,300MW,2	
3	CNM64A	3809-001312	CABLE-FLAT;30V,80C,110MM,7P,1.25MM,UL289		4	QM701	0504-000118	TR-DIGITAL;KSR1003,NPN,300MW,2	
3	FLM301	AA26-10006C	TRANS-IF;7ML,BIAS,-,7MM,3100PF		4	QM702	0504-000118	TR-DIGITAL;KSR1003,NPN,300MW,2	
3	SWM601	AA34-20001A	SWITCH-MODE;1,25x14.6x29.8mm,BK,DC5V		4	QM703	0504-000118	TR-DIGITAL;KSR1003,NPN,300MW,2	
3	SWM602	AA34-40001A	SWITCH-REC.;1EA,37.5x14.4mm,BK,DC5V		4	QM102	0504-000142	TR-DIGITAL;KSR2001,PNP,300MW,4	
3	CN001	AA39-00180D	LEAD CONNECTOR ASSY;V18A,UL1007#26,UL/CS		4	ICM605	1203-000642	IC-RESET;572,T0-92,3P,-,PLASTI	
3	CN003	AA39-00180D	LEAD CONNECTOR ASSY;V18A,UL1007#26,UL/CS		4	RM344	2001-000004	R-CARBON;200KOHM,5%,1/8W,AA,TP	
3	CNM601	AA39-20603A	LEAD CONNECTOR-ASSY;-GIL-S-2S-S2C2-S,YB		4	R211	2001-000008	R-CARBON;15KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
3	REM701	AA59-60003V	MODULE-REMOCON;DP,SRV-18,38KHz,940nm,MES		4	RM323	2001-000008	R-CARBON;15KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
3	GPM001	AA63-00444B	GROUND;TVCR,PBS,T0.3,SUS-DECK		4	RM334	2001-000008	R-CARBON;15KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
3	LDM602	AA91-60318A	ASSY-HOLDER,LED;-ABS,HB,BLK,IR LED,TS-D		4	RM622	2001-000010	R-CARBON;68Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
4		0601-001303	LED-IR;SIDE-VIEW,2.5MM,75MW,6V,950NM,		4	RM346	2001-000012	R-CARBON;680Kohm,5%,1/8W,AA,TP,1.8x3.2m	
4		AA61-00003A	HOLDER-LED;TVN-502V,ABS,-,-,BLK,HB		4	R707	2001-000037	R-CARBON(S);330OHM,5%,1/2W,AA,	
3	SM601	AA91-60319A	ASSY-HOLDER,SENSOR;-ABS,HB,BLK,TR LED,T		4	RM101	2001-000109	R-CARBON(S);470OHM,5%,1/2W,AA,	
3	SM602	AA91-60319A	ASSY-HOLDER,SENSOR;-ABS,HB,BLK,TR LED,T		4	RM667	2001-000118	R-CARBON(S);180OHM,5%,1/2W,AA,	
4		0603-001011	PHOTO TR;NPN,35V,6V,50mA,75mW,BK		4	RM311	2001-000221	R-CARBON;1.2KOHM,5%,1/8W,AA,TP	
4		AA61-00005A	HOLDER-SENSOR;TVN-502V,ABS,-,-,BLK,HB		4	RM318	2001-000221	R-CARBON;1.2KOHM,5%,1/8W,AA,TP	
3	LDM601	AA96-00462A	ASSY LED GUIDE;-,-,DL-11S2R1,RED		4	RM347	2001-000221	R-CARBON;1.2KOHM,5%,1/8W,AA,TP	
3	IC901	1103-001106	IC-EEPROM;24C080,1028x8BIT,DIP,8P,300MIL		4	RM340	2001-000241	R-CARBON;1.5KOHM,5%,1/8W,AA,TP	
3	TPM01	3711-002643	POST-HEADER;YW025-04(AUTO)		4	RM348	2001-000241	R-CARBON;1.5KOHM,5%,1/8W,AA,TP	
3	CN002	3711-003974	CONNECTOR-HEADER;BOX,12P,1R,2.5mm,STRAIG		4	RM309	2001-000258	R-CARBON;1.8Kohm,5%,1/8W,AA,TP,1.8x3.2m	
3	TU01S	AA40-00021A	TUNER-F/S;TCPN3081PA09A(S),NTSC,TR,181CH		4	RM336	2001-000258	R-CARBON;1.8Kohm,5%,1/8W,AA,TP,1.8x3.2m	
3		0202-000008	SOLDER-WIRE;S63S-D3.0,S63A,D3.63/37		4	RM338	2001-000258	R-CARBON;1.8Kohm,5%,1/8W,AA,TP,1.8x3.2m	
3		0202-000187	SOLDER-WIREFLUX;-RS60S,D1.2,6		4	RM349	2001-000258	R-CARBON;1.8Kohm,5%,1/8W,AA,TP,1.8x3.2m	
3		0204-000442	SOLVENT;CH3-CH5H-CH396%IM-1000		4	R221	2001-000273	R-CARBON;100KOHM,5%,1/8W,AA,TP	
3		0204-001024	FLUX;DF-96TVS,-,20%, -		4	R236	2001-000273	R-CARBON;100KOHM,5%,1/8W,AA,TP	
3	L/PQS	AA68-01018A	LABEL-PQS,-,50mmX,13,-,WHITE,-		4	RM686	2001-000273	R-CARBON;100KOHM,5%,1/8W,AA,TP	
3	A/AUTO	AA96-01086A	ASSY PCB P-AUTO;V18A,20,TORNADO		4	R104	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP	
4	D201	0401-000005	DIODE;1N4148,100V,300mA,1V,8nS,TAPING		4	R105	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP	
4	D901	0401-000005	DIODE;1N4148,100V,300mA,1V,8nS,TAPING		4	R215	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP	
4	DM103	0401-000005	DIODE;1N4148,100V,300mA,1V,8nS,TAPING		4	R220	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP	
4	DM104	0401-000005	DIODE;1N4148,100V,300mA,1V,8nS,TAPING		4	R223	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP	
4	DM105	0401-000005	DIODE;1N4148,100V,300mA,1V,8nS,TAPING		4	R227	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP	
4	DM501	0401-000005	DIODE;1N4148,100V,300mA,1V,8nS,TAPING		4	R233	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP	
4	DM605	0401-000005	DIODE;1N4148,100V,300mA,1V,8nS,TAPING		4	R234	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP	
4	DM606	0401-000005	DIODE;1N4148,100V,300mA,1V,8nS,TAPING		4	R235	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP	
4	D101	0402-000132	DIODE-RECTIFIER;1N4004,400V,1A,DO-41		4	R601	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP	
4	D902	0402-000132	DIODE-RECTIFIER;1N4004,400V,1A,DO-41		4	R602	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP	
4	DM101	0402-000132	DIODE-RECTIFIER;1N4004,400V,1A,DO-41		4	R901	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP	
4	DM102	0402-000132	DIODE-RECTIFIER;1N4004,400V,1A,DO-41		4	R902	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP	
4	DM106	0402-000132	DIODE-RECTIFIER;1N4004,400V,1A,DO-41		4	R903	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP	
4	DZ701	0403-000508	DIODE-ZENER;MTZJ5.6B,5.6V,5.45-5.73V,500		4	R904	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP	
4	DZM701	0403-000508	DIODE-ZENER;MTZJ5.6B,5.6V,5.45-5.73V,500		4	R905	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP	
4	DZ601	0403-000719	DIODE-ZENER;MTZJ7.5B,7.5V,7.07-7.45V,500		4	R906	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP	
4	DZ602	0403-000719	DIODE-ZENER;MTZJ7.5B,7.5V,7.07-7.45V,500		4	R907	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP	
4	DZM103	0403-000720	DIODE-ZENER;MTZJ9.1B,9.1V,8.57-9.01V,500		4	R908	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP	
4	DZM101	0403-001211	DIODE-ZENER;MTZJ12B,11.44-12.03V,500MW,D		4	R909	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP	
4	DZ901	0403-001317	DIODE-ZENER;MTZJ3.0B,3.01-3.22V,500mW,DO		4	R910	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP	
4	DZ102	0403-001373	DIODE-ZENER;MTZJ5.1A,4.81V-5.07V,500mW,D		4	R911	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP	
4	DZM102	0403-001373	DIODE-ZENER;MTZJ5.1A,4.81V-5.07V,500mW,D		4	R912	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP	
					4	R913	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP	
					4	R914	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP	
					4	R915	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP	

Loc. No.	Code No.	Description ; Specification	Remark
4	RM664	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm
4	RM668	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm
4	RM671	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm
4	RM679	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm
4	RM680	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm
4	R918	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP
4	R928	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP
4	R929	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP
4	R930	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP
4	RM102	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP
4	RM345	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP
4	RM303	2001-000458	R-CARBON;2.2ohm,5%,1/8W,AA,TP,1.8x3.2mm
4	R515	2001-000472	R-CARBON;2.7KOHM,5%,1/8W,AA,TP
4	RM506	2001-000472	R-CARBON;2.7KOHM,5%,1/8W,AA,TP
4	RM343	2001-000508	R-CARBON;220KOHM,5%,1/8W,AA,TP
4	R231	2001-000515	R-CARBON;220OHM,5%,1/8W,AA,TP
4	R711	2001-000515	R-CARBON;220OHM,5%,1/8W,AA,TP
4	RM669	2001-000515	R-CARBON;220OHM,5%,1/8W,AA,TP
4	RM670	2001-000515	R-CARBON;220OHM,5%,1/8W,AA,TP
4	RM302	2001-000522	R-CARBON;22KOHM,5%,1/8W,AA,TP
4	RM320	2001-000522	R-CARBON;22KOHM,5%,1/8W,AA,TP
4	RM602	2001-000522	R-CARBON;22KOHM,5%,1/8W,AA,TP
4	RM604	2001-000522	R-CARBON;22KOHM,5%,1/8W,AA,TP
4	RM666	2001-000522	R-CARBON;22KOHM,5%,1/8W,AA,TP
4	R106	2001-000554	R-CARBON;270OHM,5%,1/8W,AA,TP
4	RM601	2001-000554	R-CARBON;270OHM,5%,1/8W,AA,TP
4	RM603	2001-000554	R-CARBON;270OHM,5%,1/8W,AA,TP
4	RM361	2001-000554	R-CARBON;270OHM,5%,1/8W,AA,TP
4	R219	2001-000563	R-CARBON;27KOHM,5%,1/8W,AA,TP,1.8X3.2MM
4	R222	2001-000563	R-CARBON;27KOHM,5%,1/8W,AA,TP,1.8X3.2MM
4	RM304	2001-000563	R-CARBON;27KOHM,5%,1/8W,AA,TP,1.8X3.2MM
4	RM316	2001-000563	R-CARBON;27KOHM,5%,1/8W,AA,TP,1.8X3.2MM
4	R225	2001-000591	R-CARBON;3.3KOHM,5%,1/8W,AA,TP
4	RM688	2001-000613	R-CARBON;3.9KOHM,5%,1/8W,AA,TP
4	RM678	2001-000633	R-CARBON;30KOHM,5%,1/8W,AA,TP
4	RM314	2001-000645	R-CARBON;330KOHM,5%,1/8W,AA,TP
4	RM507	2001-000660	R-CARBON;33KOHM,5%,1/8W,AA,TP
4	RM617	2001-000660	R-CARBON;33KOHM,5%,1/8W,AA,TP
4	RM514	2001-000679	R-CARBON;36KOHM,5%,1/8W,AA,TP
4	R103	2001-000702	R-CARBON;39KOHM,5%,1/8W,AA,TP
4	R218	2001-000702	R-CARBON;39KOHM,5%,1/8W,AA,TP
4	R708	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP
4	R919	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP
4	R920	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP
4	R921	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP
4	R922	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP
4	R923	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP
4	R924	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP
4	R926	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP
4	R927	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP
4	R931	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP
4	R932	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP
4	RM360	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP
4	RM650	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP
4	RM651	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP
4	RM652	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP
4	RM319	2001-000766	R-CARBON;43KOHM,5%,1/8W,AA,TP
4	RM307	2001-000780	R-CARBON;470ohm,5%,1/8W,AA,TP,1.8x3.2mm
4	RM322	2001-000780	R-CARBON;470ohm,5%,1/8W,AA,TP,1.8x3.2mm
4	RM339	2001-000780	R-CARBON;470ohm,5%,1/8W,AA,TP,1.8x3.2mm
4	RM502	2001-000786	R-CARBON;47KOHM,5%,1/8W,AA,TP
4	RM503	2001-000786	R-CARBON;47KOHM,5%,1/8W,AA,TP
4	RM615	2001-000786	R-CARBON;47KOHM,5%,1/8W,AA,TP
4	R603	2001-000812	R-CARBON;5.6Kohm,5%,1/8W,AA,TP,1.8x3.2mm
4	R604	2001-000812	R-CARBON;5.6Kohm,5%,1/8W,AA,TP,1.8x3.2mm
4	RM312	2001-000812	R-CARBON;5.6Kohm,5%,1/8W,AA,TP,1.8x3.2mm
4	RM331	2001-000832	R-CARBON;510OHM,5%,1/8W,AA,TP
4	RM332	2001-000832	R-CARBON;510OHM,5%,1/8W,AA,TP
4	RM659	2001-000832	R-CARBON;510OHM,5%,1/8W,AA,TP
4	R232	2001-000850	R-CARBON;560Kohm,5%,1/8W,AA,TP,1.8x3.2m
4	RM606	2001-000850	R-CARBON;560Kohm,5%,1/8W,AA,TP,1.8x3.2m
4	R101	2001-000864	R-CARBON;56Kohm,5%,1/8W,AA,TP,1.8x3.2mm
4	RM613	2001-000864	R-CARBON;56Kohm,5%,1/8W,AA,TP,1.8x3.2mm
4	RM614	2001-000864	R-CARBON;56Kohm,5%,1/8W,AA,TP,1.8x3.2mm
4	RM687	2001-000864	R-CARBON;56Kohm,5%,1/8W,AA,TP,1.8x3.2mm
4	RM335	2001-000878	R-CARBON;6.2KOHM,5%,1/8W,AA,TP
4	RM509	2001-000878	R-CARBON;6.2KOHM,5%,1/8W,AA,TP

Loc. No.	Code No.	Description ; Specification	Remark
4	R226	2001-000969 R-CARBON;750HM,5%,1/8W,AA,TP,1	
4	R228	2001-000969 R-CARBON;750HM,5%,1/8W,AA,TP,1	
4	R229	2001-000969 R-CARBON;750HM,5%,1/8W,AA,TP,1	
4	R706	2001-000969 R-CARBON;750HM,5%,1/8W,AA,TP,1	
4	R709	2001-000969 R-CARBON;750HM,5%,1/8W,AA,TP,1	
4	RM357	2001-000969 R-CARBON;750HM,5%,1/8W,AA,TP,1	
4	RM350	2001-000977 R-CARBON;8.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
4	RM501	2001-000977 R-CARBON;8.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
4	RM504	2001-000977 R-CARBON;8.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
4	RM106	2001-001077 R-CARBON(S);1500HM,5%,1/2W,AA,	
4	RM701	2001-001077 R-CARBON(S);1500HM,5%,1/2W,AA,	
4	RM702	2001-001077 R-CARBON(S);1500HM,5%,1/2W,AA,	
4	RM703	2001-001077 R-CARBON(S);1500HM,5%,1/2W,AA,	
4	R701	2001-001088 R-CARBON(S);1KOHM,5%,1/2W,AA,TP,2.4X6.4	
4	R702	2001-001088 R-CARBON(S);1KOHM,5%,1/2W,AA,TP,2.4X6.4	
4	RM104	2001-001107 R-CARBON(S);2200HM,5%,1/2W,AA,	
4	RM355	2001-001108 R-CARBON(S);22KOHM,5%,1/2W,AA,	
4	RM356	2001-001114 R-CARBON(S);2700HM,5%,1/2W,AA,	
4	R107	2003-000493 R-METAL OXIDE(S);12ohm,5%,2W,AF,TP,4x12m	
4	RM505	2004-000500 R-METAL;2.7Kohm,1%,1/8W,AA,TP,1.8x3.2m	
4	RM619	2008-000253 R-FUSIBLE(S);0.470HM,5%,1W,AF,	
4	CM335	2201-000262 C-CERAMIC,DISC;180PF,10%,50V,Y	
4	CM337	2201-000262 C-CERAMIC,DISC;180PF,10%,50V,Y	
4	CM352	2201-000262 C-CERAMIC,DISC;180PF,10%,50V,Y	
4	CM318	2201-000863 C-CERAMIC,DISC;680PF,10%,50V,Y	
4	CM636	2202-000121 C-CERAMIC,MLC-AXIAL;100PF,10%,	
4	C233	2202-000127 C-CERAMIC,MLC-AXIAL;10NF,+80-2	
4	C712	2202-000127 C-CERAMIC,MLC-AXIAL;10NF,+80-2	
4	CM333	2202-000127 C-CERAMIC,MLC-AXIAL;10NF,+80-2	
4	CM351	2202-000127 C-CERAMIC,MLC-AXIAL;10NF,+80-2	
4	CM354	2202-000127 C-CERAMIC,MLC-AXIAL;10NF,+80-2	
4	CM361	2202-000127 C-CERAMIC,MLC-AXIAL;10NF,+80-2	
4	CM513	2202-000127 C-CERAMIC,MLC-AXIAL;10NF,+80-2	
4	CM514	2202-000127 C-CERAMIC,MLC-AXIAL;10NF,+80-2	
4	CM601	2202-000127 C-CERAMIC,MLC-AXIAL;10NF,+80-2	
4	CM612	2202-000127 C-CERAMIC,MLC-AXIAL;10NF,+80-2	
4	CM617	2202-000127 C-CERAMIC,MLC-AXIAL;10NF,+80-2	
4	CM621	2202-000127 C-CERAMIC,MLC-AXIAL;10NF,+80-2	
4	CM630	2202-000127 C-CERAMIC,MLC-AXIAL;10NF,+80-2	
4	CM631	2202-000127 C-CERAMIC,MLC-AXIAL;10NF,+80-2	
4	CM644	2202-000127 C-CERAMIC,MLC-AXIAL;10NF,+80-2	
4	C219	2202-000183 C-CERAMIC;CKOAX7R16VT222-MEP05	
4	C247	2202-000183 C-CERAMIC;CKOAX7R16VT222-MEP05	
4	CM541	2202-000183 C-CERAMIC;CKOAX7R16VT222-MEP05	
4	CM542	2202-000183 C-CERAMIC;CKOAX7R16VT222-MEP05	
4	CM632	2202-000183 C-CERAMIC;CKOAX7R16VT222-MEP05	
4	CM633	2202-000183 C-CERAMIC;CKOAX7R16VT222-MEP05	
4	CM609	2202-000205 C-CERAMIC,MLC-AXIAL;22PF,5%,50	
4	CM610	2202-000205 C-CERAMIC,MLC-AXIAL;22PF,5%,50	
4	C101	2202-000231 C-CERAMIC,MLC-AXIAL;330PF,10%,50V,Y5P,3	
4	C102	2202-000231 C-CERAMIC,MLC-AXIAL;330PF,10%,50V,Y5P,3	
4	C221	2202-000253 C-CERAMIC,MLC-AXIAL;4.7nF,20%,16V,Y5R,TP	
4	CM634	2202-000263 C-CERAMIC,MLC-AXIAL;470PF,10%,50V,Y5P,3	
4	C905	2202-000279 C-CERAMIC,MLC-AXIAL;47PF,5%,50	
4	C906	2202-000279 C-CERAMIC,MLC-AXIAL;47PF,5%,50	
4	CM350	2202-000286 C-CERAMIC,MLC-AXIAL;56PF,5%,50	
4	C248	2202-000286 C-CERAMIC,MLC-AXIAL;56PF,5%,50	
4	C241	2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP	
4	CM103	2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP	
4	CM301	2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP	
4	CM303	2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP	
4	CM339	2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP	
4	CM344	2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP	
4	CM363	2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP	
4	CM364	2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP	
4	CM606	2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP	
4	CM613	2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP	
4	CM615	2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP	
4	CM625	2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP	
4	CM628	2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP	
4	CM629	2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP	
4	CM638	2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP	
4	CM642	2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP	
4	CM701	2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP	
4	CM645	2202-000718 C-CERAMIC,MLC-AXIAL;3.9nF,20%,16V,Y5R,TP	
4	CM646	2202-000718 C-CERAMIC,MLC-AXIAL;3.9nF,20%,16V,Y5R,TP	
4	C226	2202-000796 C-CERAMIC,MLC-AXIAL;1NF,10%,50	

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4	C227	2202-000796 C-CERAMIC,MLC-AXIAL;1NF,10%,50	
4	CM366	2202-000796 C-CERAMIC,MLC-AXIAL;1NF,10%,50	
4	CM659	2202-000796 C-CERAMIC,MLC-AXIAL;1NF,10%,50	
4	CM660	2202-000796 C-CERAMIC,MLC-AXIAL;1NF,10%,50	
4	CM640	2202-000806 C-CERAMIC,MLC-AXIAL;220pF,10%,50V,Y5P,TP	
4	C218	2202-000807 C-CERAMIC,MLC-AXIAL;22nF,+80-20%,25V,Y5V	
4	C223	2202-000807 C-CERAMIC,MLC-AXIAL;22nF,+80-20%,25V,Y5V	
4	C234	2202-000807 C-CERAMIC,MLC-AXIAL;22nF,+80-20%,25V,Y5V	
4	C250	2202-000807 C-CERAMIC,MLC-AXIAL;22nF,+80-20%,25V,Y5V	
4	C902	2202-000807 C-CERAMIC,MLC-AXIAL;22nF,+80-20%,25V,Y5V	
4	C908	2202-000807 C-CERAMIC,MLC-AXIAL;22nF,+80-20%,25V,Y5V	
4	CM362	2202-000807 C-CERAMIC,MLC-AXIAL;22nF,+80-20%,25V,Y5V	
4	CM520	2202-000807 C-CERAMIC,MLC-AXIAL;22nF,+80-20%,25V,Y5V	
4	CM620	2202-000807 C-CERAMIC,MLC-AXIAL;22nF,+80-20%,25V,Y5V	
4	CM647	2202-000807 C-CERAMIC,MLC-AXIAL;22nF,+80-20%,25V,Y5V	
4	CM648	2202-000807 C-CERAMIC,MLC-AXIAL;22nF,+80-20%,25V,Y5V	
4	CM649	2202-000807 C-CERAMIC,MLC-AXIAL;22nF,+80-20%,25V,Y5V	
4	C104	2202-002037 C-CERAMIC,MLC-AXIAL;100NF,+80-20	
4	C106	2202-002037 C-CERAMIC,MLC-AXIAL;100NF,+80-20	
4	C618	2202-002037 C-CERAMIC,MLC-AXIAL;100NF,+80-20	
4	C910	2202-002037 C-CERAMIC,MLC-AXIAL;100NF,+80-20	
4	C912	2202-002037 C-CERAMIC,MLC-AXIAL;100NF,+80-20	
4	CM104	2202-002037 C-CERAMIC,MLC-AXIAL;100NF,+80-20	
4	CM109	2202-002037 C-CERAMIC,MLC-AXIAL;100NF,+80-20	
4	CM355	2202-002037 C-CERAMIC,MLC-AXIAL;100NF,+80-20	
4	CM357	2202-002037 C-CERAMIC,MLC-AXIAL;100NF,+80-20	
4	CM501	2202-002037 C-CERAMIC,MLC-AXIAL;100NF,+80-20	
4	CM511	2202-002037 C-CERAMIC,MLC-AXIAL;100NF,+80-20	
4	CM515	2202-002037 C-CERAMIC,MLC-AXIAL;100NF,+80-20	
4	CM517	2202-002037 C-CERAMIC,MLC-AXIAL;100NF,+80-20	
4	CM528	2202-002037 C-CERAMIC,MLC-AXIAL;100NF,+80-20	
4	CM529	2202-002037 C-CERAMIC,MLC-AXIAL;100NF,+80-20	
4	CM530	2202-002037 C-CERAMIC,MLC-AXIAL;100NF,+80-20	
4	CM532	2202-002037 C-CERAMIC,MLC-AXIAL;100NF,+80-20	
4	CM535	2202-002037 C-CERAMIC,MLC-AXIAL;100NF,+80-20	
4	CM512	2301-000104 C-FILM,PEF;1.2NF,5%,50V,6.5X3.0X5.5MM,5M	
4	CM306	2301-000160 C-FILM,PEF;12NF,5%,50V,11.0X6	
4	C232	2301-000192 C-FILM,PEF;1NF,5%,50V,5.3X10MM	
4	CM510	2301-000224 C-FILM,PEF;22NF,5%,50V,7.4X3.9	
4	CM538	2301-000224 C-FILM,PEF;22NF,5%,50V,7.4X3.9	
4	C614	2301-000232 C-FILM,PEF;3.3NF,5%,50V,8.1X4	
4	C615	2301-000232 C-FILM,PEF;3.3NF,5%,50V,8.1X4	
4	CM604	2301-000232 C-FILM,PEF;3.3NF,5%,50V,8.1X4	
4	CM305	2301-000254 C-FILM,PEF;39NF,5%,50V,7.5X3.5X6.5MM,5MM	
4	CM308	2301-000301 C-FILM,PEF;6.8NF,5%,50V,6.5X5	
4	CM321	2301-000301 C-FILM,PEF;6.8NF,5%,50V,6.5X5	
4	CM603	2301-000310 C-FILM,PEF;68NF,5%,50V,8.0X8.5	
4	CM623	2301-000310 C-FILM,PEF;68NF,5%,50V,8.0X8.5	
4	CM313	2301-000314 C-FILM,PEF;8.2NF,5%,50V,6.5X3	
4	CM320	2301-000314 C-FILM,PEF;8.2NF,5%,50V,6.5X3	
4	CM317	2301-000342 C-FILM,PEF;2.2nF,5%,50V,TP,7.4x3.9x13mm,	
4	C610	2301-000356 C-FILM,PEF;47nF,5%,50V,TP,7.5x4.0x6.5,5m	
4	C611	2301-000356 C-FILM,PEF;47nF,5%,50V,TP,7.5x4.0x6.5,5m	
4	C612	2301-000356 C-FILM,PEF;47nF,5%,50V,TP,7.5x4.0x6.5,5m	
4	C613	2301-000356 C-FILM,PEF;47nF,5%,50V,TP,7.5x4.0x6.5,5m	
4	CM367	2301-000356 C-FILM,PEF;47nF,5%,50V,TP,7.5x4.0x6.5,5m	
4	CM368	2301-000356 C-FILM,PEF;47nF,5%,50V,TP,7.5x4.0x6.5,5m	
4	CM369	2301-000356 C-FILM,PEF;47nF,5%,50V,TP,7.5x4.0x6.5,5m	
4	CM314	2301-000383 C-FILM,PEF;10nF,5%,50V,TP,6x7x3.2mm,5mm	
4	CM322	2301-000383 C-FILM,PEF;10nF,5%,50V,TP,6x7x3.2mm,5mm	
4	CM331	2301-000383 C-FILM,PEF;10nF,5%,50V,TP,6x7x3.2mm,5mm	
4	CM332	2301-000383 C-FILM,PEF;10nF,5%,50V,TP,6x7x3.2mm,5mm	
4	C231	2305-000196 C-FILM,MPEF;150nF,5%,63V,TP,-5mm	
4	C238	2305-000196 C-FILM,MPEF;150nF,5%,63V,TP,-5mm	
4	C239	2305-000196 C-FILM,MPEF;150nF,5%,63V,TP,-5mm	
4	C240	2305-000196 C-FILM,MPEF;150nF,5%,63V,TP,-5mm	
4	C913	2305-000289 C-FILM,MPEF;220NF,5%,63V,-5MM	
4	C915	2305-000289 C-FILM,MPEF;220NF,5%,63V,-5MM	
4	CM643	2305-000289 C-FILM,MPEF;220NF,5%,63V,-5MM	
4	C601	2305-000411 C-FILM,MPEF;470NF,5%,50V,7.3X4	
4	C602	2305-000411 C-FILM,MPEF;470NF,5%,50V,7.3X4	
4	C603	2305-000411 C-FILM,MPEF;470NF,5%,50V,7.3X4	
4	C604	2305-000411 C-FILM,MPEF;470NF,5%,50V,7.3X4	
4	C605	2305-000411 C-FILM,MPEF;470NF,5%,50V,7.3X4	
4	C606	2305-000411 C-FILM,MPEF;470NF,5%,50V,7.3X4	
4	C607	2305-000411 C-FILM,MPEF;470NF,5%,50V,7.3X4	
4	C621	2305-000411 C-FILM,MPEF;470NF,5%,50V,7.3X4	

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4	C904	2305-000412 C-FILM,MPEF;470NF,5%,63V,-,5MM	
4	CM527	2305-000665 C-FILM;104J, 60V,5MM TAPING	
4	C914	2306-000122 C-FILM,MPPF;100NF,5%,50V,7.3X4	
4	CM312	2306-000122 C-FILM,MPPF;100NF,5%,50V,7.3X4	
4	C242	2401-000027 C-AL;4.7UF,20%,50V,GP5*11MM,5MEA	
4	CM616	2401-000302 C-AL;100UF,20%,25V,GP,6X11MM,5	
4	CM315	2401-000426 C-AL;10uF,20%,16V,GP,TP,3.5x5,5	
4	CM343	2401-000426 C-AL;10uF,20%,16V,GP,TP,3.5x5,5	
4	CM345	2401-000426 C-AL;10uF,20%,16V,GP,TP,3.5x5,5	
4	CM502	2401-000426 C-AL;10uF,20%,16V,GP,TP,3.5x5,5	
4	CM508	2401-000426 C-AL;10uF,20%,16V,GP,TP,3.5x5,5	
4	CM509	2401-000426 C-AL;10uF,20%,16V,GP,TP,3.5x5,5	
4	CM521	2401-000426 C-AL;10uF,20%,16V,GP,TP,3.5x5,5	
4	CM522	2401-000426 C-AL;10uF,20%,16V,GP,TP,3.5x5,5	
4	CM539	2401-000426 C-AL;10uF,20%,16V,GP,TP,3.5x5,5	
4	C108	2401-000480 C-AL;10UF,20%,50V,GP,5X11MM,5M	
4	CM101	2401-000590 C-AL;1UF,20%,50V,GP,3X5MM,5MM,	
4	CM316	2401-000590 C-AL;1UF,20%,50V,GP,3X5MM,5MM,	
4	CM334	2401-000590 C-AL;1UF,20%,50V,GP,3X5MM,5MM,	
4	CM340	2401-000590 C-AL;1UF,20%,50V,GP,3X5MM,5MM,	
4	CM342	2401-000590 C-AL;1UF,20%,50V,GP,3X5MM,5MM,	
4	CM346	2401-000590 C-AL;1UF,20%,50V,GP,3X5MM,5MM,	
4	CM347	2401-000590 C-AL;1UF,20%,50V,GP,3X5MM,5MM,	
4	CM348	2401-000590 C-AL;1UF,20%,50V,GP,3X5MM,5MM,	
4	CM349	2401-000590 C-AL;1UF,20%,50V,GP,3X5MM,5MM,	
4	CM358	2401-000590 C-AL;1UF,20%,50V,GP,3X5MM,5MM,	
4	CM359	2401-000590 C-AL;1UF,20%,50V,GP,3X5MM,5MM,	
4	CM360	2401-000590 C-AL;1UF,20%,50V,GP,3X5MM,5MM,	
4	CM506	2401-000590 C-AL;1UF,20%,50V,GP,3X5MM,5MM,	
4	CM518	2401-000590 C-AL;1UF,20%,50V,GP,3X5MM,5MM,	
4	CM336	2401-000590 C-AL;1UF,20%,50V,GP,3X5MM,5MM,	
4	C220	2401-000603 C-AL;1UF,20%,50V,GP,5X11MM,5MM	
4	C711	2401-000603 C-AL;1UF,20%,50V,GP,5X11MM,5MM	
4	C222	2401-000660 C-ELECTROLYTIC;CE04WTAPG50V2.2	
4	C608	2401-000660 C-ELECTROLYTIC;CE04WTAPG50V2.2	
4	C609	2401-000660 C-ELECTROLYTIC;CE04WTAPG50V2.2	
4	CM533	2401-000660 C-ELECTROLYTIC;CE04WTAPG50V2.2	
4	CM519	2401-000753 C-AL;220nF,20%,50V,GP,TP,3x5,5	
4	CM525	2401-000758 C-AL;220NF,20%,50V,GP,5X11MM,5	
4	C617	2401-000914 C-AL;22UF,20%,16V,GP,5X11.5,TP	
4	C246	2401-000914 C-AL;22UF,20%,16V,GP,5X11.5,TP	
4	CM304	2401-000922 C-AL;22uF,20%,16V,GP,TP,5x5,5	
4	CM341	2401-000922 C-AL;22uF,20%,16V,GP,TP,5x5,5	
4	CM526	2401-001026 C-AL;3.3UF,20%,50V,GP,5X11MM,5	
4	CM319	2401-001250 C-AL;4.7uF,20%,35V,GP,TP,4x5,5	
4	CM611	2401-001250 C-AL;4.7uF,20%,35V,GP,TP,4x5,5	
4	CM635	2401-001250 C-AL;4.7uF,20%,35V,GP,TP,4x5,5	
4	CM702	2401-001840 C-AL;100UF,20%,16V,GP,TP,6.3X1	
4	C103	2401-001840 C-AL;100UF,20%,16V,GP,TP,6.3X1	
4	C705	2401-001840 C-AL;100UF,20%,16V,GP,TP,6.3X1	
4	CM543	2401-002009 C-AL;100UF,20%,16V,GP,TP,6.3X7	
4	CM637	2401-002009 C-AL;100UF,20%,16V,GP,TP,6.3X7	
4	CM311	2401-002069 C-AL;33uF,20%,16V,GP,TP,6.3x5,5	
4	CM507	2401-002069 C-AL;33uF,20%,16V,GP,TP,6.3x5,5	
4	CM523	2401-002069 C-AL;33uF,20%,16V,GP,TP,6.3x5,5	
4	CM524	2401-000027 C-AL;4.7UF,20%,50V,GP5*11MM,5MEA	
4	CM307	2401-002144 C-AL;47uF,20%,16V,GP,TP,5x11,5	
4	CM531	2401-002144 C-AL;47uF,20%,16V,GP,TP,5x11,5	
4	CM536	2401-002144 C-AL;47uF,20%,16V,GP,TP,5x11,5	
4	C616	2401-002235 C-ELECTROLYTIC;CE04W(T)16V10M	
4	C619	2401-002235 C-ELECTROLYTIC;CE04W(T)16V10M	
4	C620	2401-002235 C-ELECTROLYTIC;CE04W(T)16V10M	
4	C903	2401-002235 C-ELECTROLYTIC;CE04W(T)16V10M	
4	C909	2401-002235 C-ELECTROLYTIC;CE04W(T)16V10M	
4	CM504	2401-002235 C-ELECTROLYTIC;CE04W(T)16V10M	
4	CM534	2401-002235 C-ELECTROLYTIC;CE04W(T)16V10M	
4	CM537	2401-002235 C-ELECTROLYTIC;CE04W(T)16V10M	
4	CM540	2401-002235 C-ELECTROLYTIC;CE04W(T)16V10M	
4	CM102	2401-002291 C-ELECTROLYTIC;CE04WTAPG16V47M	
4	CM108	2401-002291 C-ELECTROLYTIC;CE04WTAPG16V47M	
4	CM302	2401-002291 C-ELECTROLYTIC;CE04WTAPG16V47M	
4	CM338	2401-002291 C-ELECTROLYTIC;CE04WTAPG16V47M	
4	CM353	2401-002291 C-ELECTROLYTIC;CE04WTAPG16V47M	
4	CM356	2401-002291 C-ELECTROLYTIC;CE04WTAPG16V47M	
4	CM365	2401-002291 C-ELECTROLYTIC;CE04WTAPG16V47M	
4	CM516	2401-002291 C-ELECTROLYTIC;CE04WTAPG16V47M	
4	CM614	2401-002291 C-ELECTROLYTIC;CE04WTAPG16V47M	

Loc. No.	Code No.	Description ; Specification	Remark
4	CM639	2401-002291 C-ELECTROLYTIC;CE04WTAPG16V47M	
4	CM503	2401-002299 C-AL;4.7UF,20%,50V,GP,TP,4X7,5	
4	CM505	2401-002299 C-AL;4.7UF,20%,50V,GP,TP,4X7,5	
4	C703	2401-002463 C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE	
4	C704	2401-002463 C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE	
4	C710	2401-002463 C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE	
4	CM622	2401-002463 C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE	
4	CM370	2401-002594 C-AL;220uF,20%,16V,GP,TP,8x11.5,5	
4	C911	2401-002619 C-AL;47uF,20%,25V,GP,TP,5x11,5	
4	CM105	2401-002619 C-AL;47uF,20%,25V,GP,TP,5x11,5	
4	C216	2401-003102 C-AL;100uF,20%,10V,GP,TP,5x11,5	
4	C235	2401-003102 C-AL;100uF,20%,10V,GP,TP,5x11,5	
4	C249	2401-003102 C-AL;100uF,20%,10V,GP,TP,5x11,5	
4	C901	2401-003102 C-AL;100uF,20%,10V,GP,TP,5x11,5	
4	C907	2401-003102 C-AL;100uF,20%,10V,GP,TP,5x11,5	
4	LM101	2701-000002 INDUCTOR-AXIAL;100UH,10%,4.2X9	
4	LM302	2701-000002 INDUCTOR-AXIAL;100UH,10%,4.2X9	
4	LM304	2701-000002 INDUCTOR-AXIAL;100UH,10%,4.2X9	
4	LM305	2701-000002 INDUCTOR-AXIAL;100UH,10%,4.2X9	
4	LM307	2701-000002 INDUCTOR-AXIAL;100UH,10%,4.2X9	
4	LM601	2701-000002 INDUCTOR-AXIAL;100UH,10%,4.2X9	
4	LM602	2701-000002 INDUCTOR-AXIAL;100UH,10%,4.2X9	
4	LM301	2701-000112 INDUCTOR-AXIAL;100UH,10%,2.8X7	
4	LM306	2701-000112 INDUCTOR-AXIAL;100UH,10%,2.8X7	
4	LM502	2701-000112 INDUCTOR-AXIAL;100UH,10%,2.8X7	
4	LM503	2701-000112 INDUCTOR-AXIAL;100UH,10%,2.8X7	
4	LM504	2701-000112 INDUCTOR-AXIAL;100UH,10%,2.8X7	
4	L102	2701-000114 INDUCTOR-AXIAL;10UH,10%,2.5X3.	
4	L201	2701-000114 INDUCTOR-AXIAL;10UH,10%,2.5X3.	
4	L202	2701-000114 INDUCTOR-AXIAL;10UH,10%,2.5X3.	
4	L203	2701-000114 INDUCTOR-AXIAL;10UH,10%,2.5X3.	
4	L601	2701-000114 INDUCTOR-AXIAL;10UH,10%,2.5X3.	
4	L901	2701-000114 INDUCTOR-AXIAL;10UH,10%,2.5X3.	
4	L902	2701-000114 INDUCTOR-AXIAL;10UH,10%,2.5X3.	
4	L904	2701-000114 INDUCTOR-AXIAL;10UH,10%,2.5X3.	
4	LM604	2701-000115 INDUCTOR-AXIAL;10UH,10%,2.8X7M	
4	LM605	2701-000115 INDUCTOR-AXIAL;10UH,10%,2.8X7M	
4	LM501	2701-000123 INDUCTOR-AXIAL;150uH,10%,2.5X3.4mm	
4	LM303	2702-000120 INDUCTOR-RADIAL;15MH,5%,6.2X7.	
4	XT901	2801-003433 CRYSTAL-UNIT;12MHZ,30PPM,28-AAM,30PF,300	
4	XTM301	2801-003610 CRISTAL-UNIT 3.57MHZ	
4	XTM601	2801-003750 CRYSTAL-UNIT;8MHZ,30PPM,28-AAA,22PF,800H	
4	T101	2903-000135 FILTER-CERAMIC;BP,4.5MHZ	
4	BDM601	3301-000287 CORE-FERRITEBEAD;AA,3.5X1.0X6.	
4	SWM701	3404-000244 SWITCH-TACT;15V,20MA,90-170GF,	
4	SWM702	3404-000244 SWITCH-TACT;15V,20MA,90-170GF,	
4	SWM703	3404-000244 SWITCH-TACT;15V,20MA,90-170GF,	
4	SWM704	3404-000244 SWITCH-TACT;15V,20MA,90-170GF,	
4	SWM705	3404-000244 SWITCH-TACT;15V,20MA,90-170GF,	
4	SWM706	3404-000244 SWITCH-TACT;15V,20MA,90-170GF,	
4	SWM707	3404-000244 SWITCH-TACT;15V,20MA,90-170GF,	
4	SWM708	3404-000244 SWITCH-TACT;15V,20MA,90-170GF,	
4	SWM709	3404-000244 SWITCH-TACT;15V,20MA,90-170GF,	
4	SWM710	3404-000244 SWITCH-TACT;15V,20MA,90-170GF,	
4	J002	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J003	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J004	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J005	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J006	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J007	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J008	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J009	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J010	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J011	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J012	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J013	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J014	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J015	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J016	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J020	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J021	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J023	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J024	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J025	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J026	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J027	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J028	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	

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Loc. No.	Code No.	Description ; Specification	Remark
4	JM064	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM067	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM068	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM069	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM070	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM071	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM072	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM073	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM074	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM075	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM076	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM077	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM078	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM079	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM080	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM081	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM082	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM083	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM084	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM085	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM086	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM087	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM088	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM089	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM090	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM091	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM093	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM094	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM095	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM096	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM097	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM098	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM099	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM100	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM101	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM102	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM103	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM104	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM105	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM108	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM109	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM110	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM111	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM112	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM113	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM114	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM116	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM117	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM118	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM120	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM121	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM122	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	JM123	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	J017	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	J018	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	L903	3812-000219	JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M/A
4	00VER	AA41-00664A	PCB-MAIN;21J5,FR-1,1L/A,1.6T,330X245,V18
4	GT001	AA60-40014A	PIN-GT,ASSY;1P,-,-,AUTO
4	GT002	AA60-40014A	PIN-GT,ASSY;1P,-,-,AUTO
4	GT003	AA60-40014A	PIN-GT,ASSY;1P,-,-,AUTO
4	R102	2001-000490	R-CARBON;2000HM,5%,1/8W,AA,TP,
4	R933	2001-000490	R-CARBON;2000HM,5%,1/8W,AA,TP,
4	RM315	2001-000362	R-CARBON;1500HM,5%,1/8W,AA,TP,
4	R238	2001-000938	R-CARBON;680HM,5%,1/8W,AA,TP,1.8x3.2mm
4	EY01	AA60-40011A	EYELET;-ID2.0,0D2.8,-,-,BST
4	EY02	AA60-40011A	EYELET;-ID2.0,

Loc. No.	Code No.	Description ; Specification	Remark
3	C105	2401-000039 C-ALUMINUM;1000UF,20%,16V,GP,10*16MM,EA	
2	A/PWR	AA94-11152A ASSY PCB POWER;TORNADO,V18A,	
△ 3	D805	0402-000586 DIODE-RECTIFIER;RK49,90V,3.5A,DO-201AD	
△ 3	D811	0402-000586 DIODE-RECTIFIER;RK49,90V,3.5A,DO-201AD	
△ 3	D801S	0402-001082 DIODEBRIDGE;RBV406LFB,600V,4A	
3	D414	0402-001296 DIODE-RECTIFIER;FMP-3FU,1500V,5A,TO-3PF	
3	Q401	0502-001136 TR-POWER;KSD5703,NPN,70W,TO-3PF,ST,8-	
△ 3	PC801S	0604-001038 PHOTOCOUPLER;TR,130-260%,200MW	
△ 3	PT801S	1404-001246 THERMISTOR-PTC;1.5OHM,+30/-20,110V,140VA	
△ 3	CY801S	2201-000446 C-CERAMIC,AC;CK45PE400V332-M(T	
△ 3	CY802S	2201-000446 C-CERAMIC,AC;CK45PE400V332-M(T	
△ 3	CR405S	2306-000195 C-FILM,MPPF;360NF,5%,400V,26.0	
△ 3	CR401S	2306-000267 C-FILM;8.2nF,5%,1.6KV,TP,28.5x18.5x12	
△ 3	CX801S	2306-000318 C-FILM,MPPF;220NF,20%,250V,-,2	
3	C806	2401-002251 C-ELECTROLYTIC;CE04W200V470M(2	
△ 3	RL801S	3501-001040 RELAYPOWER;12VDC,500MW,10A,1FO	
△ 3	FP801S	3601-001012 FUSE-FERRULE;250V,4A,SLOW-BLOW	
△ 3	V999S	3704-001105 SOCKET-CRT;11P,20PI,26.5PI,NL,-	
3	CN401	3711-003975 CONNECTOR-HEADER;BOX,14P,1R,2.5mm,STRAIG	
3	CN802	3711-003975 CONNECTOR-HEADER;BOX,14P,1R,2.5mm,STRAIG	
△ 3	T444S	AA26-00167A TRANS FBT;FOH-29A001(S),CT29D4,3.5MH,130	
△ 3	T801S	AA26-00183A TRANS SWITCHING;EER4245,V18A,90 -264,PM5	
△ 3	T401	AA26-50001M HORIZ.DRIVE;-80MH,520UH,4UH,E	
3	L405	AA27-00025A COIL-CHOKE;-1MH,10%,--BK,-,12X20,14X2	
△ 3	LR401S	AA27-30003L COIL LINEARITY;-73UH,DR,12X15,0.55MM,BK	
△ 3	LX801S	AA29-30002N FILTER-LINE NOISE;-16MH,1.5A,AC100-260V	
3	CN601	AA39-00070A LEAD CONNECTOR-ASSY;4P,200mm,YBNH250-04,	
3	CN501	AA39-00070A LEAD-CONNECTOR;ASSY;9P,YBNH250-09,S,400m	
3	Q403	AA96-00243F ASSY H/S;-VERTICAL,AA62-00045A,IRF620,V	
4		GREASE-SILICON;SC102,JAPAN	
4		0505-000156 FET-SILICON;IRF620,N,200V,5A,0.8ohm,50W,	
4		6003-000335 SCREW-TAPTITE;RH,+,2S,M3,L8,ZPC(YEL),SWR	
4		AA62-00045A HEAT SINK-PS;-T1.0,-,DREAM,-,-,-,-,	
3	Q805	AA96-00243G ASSY H/S;-POWER,AA62-00045A,C2073-H2,V1	
3	Q810	AA96-00243G ASSY H/S;-POWER,AA62-00045A,C2073-H2,V1	
4		0205-000129 GREASE-SILICON;SC102,JAPAN	
4		0502-001007 TR-POWER;KSC2073-H2,NPN,150V,1	
4		6003-000335 SCREW-TAPTITE;RH,+,2S,M3,L8,ZPC(YEL),SWR	
4		AA62-00045A HEAT SINK-PS;-T1.0,-,DREAM,-,-,-,-,	
3	Q804	AA96-00243H ASSY H/S;-POWER,AA62-00045A,KSD73Y,C17A	
4		0205-000129 GREASE-SILICON;SC102,JAPAN	
4		0502-000298 TR-POWER;KSD73,NPN,100V,60V,5A	
4		6003-000335 SCREW-TAPTITE;RH,+,2S,M3,L8,ZPC(YEL),SWR	
4		AA62-00045A HEAT SINK-PS;-T1.0,-,DREAM,-,-,-,-,	
3	IC601	AA96-00244B ASSY H/S;-AA62-00046A,TD7266S,-	
4		0205-000129 GREASE-SILICON;SC102,JAPAN	
4		1201-001308 IC-POWERAMP;7266,ZIP,15P,-,DUAL,26dB,PL	
4		6003-000335 SCREW-TAPTITE;RH,+,2S,M3,L8,ZPC(YEL),SWR	
4		AA62-00046A HEAT SINK-PS;-T1.0,-,D1(DREAM) 60X25X	
3	IC301	AA96-00244F ASSY H/S;-VERTICAL,AA62-00046A,LA7841,	
4		0205-000129 GREASE-SILICON;SC102,JAPAN	
4		1204-001807 IC-VERTICAL PROCESSO;LA7841,SIP,7P,708MI	
4		6003-000335 SCREW-TAPTITE;RH,+,2S,M3,L8,ZPC(YEL),SWR	
4	H/SINK	AA62-00046A HEAT SINK-PS;-T1.0,-,D1(DREAM) 60X25X	
△ 3	IC801S	AA96-00662C ASSY H/S;-AA62-30171J,5Q12656RT,OIL SILI	
4	CIS	0205-001027 OIL-SILICON;G746	
4	CIS	1203-002257 IC-PWM CONTROLLER;5Q12656RT,TO-220F-5L,5	
4	CIS	6003-000333 SCREW-TAPTITE;RH,+,2S,M3,L10,ZPC(YEL),SW	
4	CIS	AA62-30171J HEAT SINK-ES;-SILVER,-,DREAM1,-,-,-	
3	IC501	AA96-50311E ASSY H/S;-AA62-30175D,TD46108Q,-	
4		1201-001330 IC-VIDEO;TD46108JF,ZSIP9,SINGLE,-	
4		6003-000334 SCREW-TAPTITE;RH,+,2S,M3,L6,ZP	
4		AA62-30175D HEATSINK-PS;-SECC,T1.0,-,33X15X30FT-2	
△ 3	NT801S	1404-001045 THERMISTOR NTC;4.7OHM,15%,2900K,35.0MW,T	
3	A/AUTO	AA97-12100A ASSY AUTO;CFTD2083TX/SMS,V18A	
4	D403	0401-000005 DIODE;1N4148,100V,300mA,1V,8nS,TAPING	
4	D405	0401-000005 DIODE;1N4148,100V,300mA,1V,8nS,TAPING	
4	D406	0401-000005 DIODE;1N4148,100V,300mA,1V,8nS,TAPING	
4	D412	0401-000005 DIODE;1N4148,100V,300mA,1V,8nS,TAPING	
4	D601	0401-000005 DIODE;1N4148,100V,300mA,1V,8nS,TAPING	
4	D602	0401-000005 DIODE;1N4148,100V,300mA,1V,8nS,TAPING	
△ 4	D833	0401-000005 DIODE;1N4148,100V,300mA,1V,8nS,TAPING	
△ 4	D834	0401-000005 DIODE;1N4148,100V,300mA,1V,8nS,TAPING	
△ 4	D835	0401-000005 DIODE;1N4148,100V,300mA,1V,8nS,TAPING	
△ 4	D848	0401-000005 DIODE;1N4148,100V,300mA,1V,8nS,TAPING	
4	D401	0402-000010 DIODE-RECTIFIER;RGP15G,400V,1.5A,DO-204A	
4	D402	0402-000010 DIODE-RECTIFIER;RGP15G,400V,1.5A,DO-204A	

Loc. No.	Code No.	Description ; Specification	Remark
4	D413	0402-000010 DIODE-RECTIFIER;RGP15G,400V,1.5A,DO-204A	
4	D504	0402-000132 DIODE-RECTIFIER;1N4004,400V,1A,DO-41	
△ 4	D807	0402-000132 DIODE-RECTIFIER;1N4004,400V,1A,DO-41	
△ 4	D809	0402-000132 DIODE-RECTIFIER;1N4004,400V,1A,DO-41	
△ 4	D812	0402-000540 DIODE-RECTIFIER;RU20A,600V,1.5	
4	D411	0402-000540 DIODE-RECTIFIER;RU20A,600V,1.5	
4	D301	0402-000546 DIODE-RECTIFIER;TVR10G,400V,1.	
4	D501	0402-000546 DIODE-RECTIFIER;TVR10G,400V,1.	
4	D502	0402-000546 DIODE-RECTIFIER;TVR10G,400V,1.	
4	D503	0402-000546 DIODE-RECTIFIER;TVR10G,400V,1.	
△ 4	D801	0402-000546 DIODE-RECTIFIER;TVR10G,400V,1.	
△ 4	D803	0402-000546 DIODE-RECTIFIER;TVR10G,400V,1.	
△ 4	D804	0402-000546 DIODE-RECTIFIER;TVR10G,400V,1.	
△ 4	DR01S	0402-000546 DIODE-RECTIFIER;TVR10G,400V,1.	
4	DZ808	0403-000510 DIODE-ZENER;MTZJ6.2B,6.2V,5.96-6.27V,500	
4	DZ814	0403-000510 DIODE-ZENER;MTZJ6.2B,6.2V,5.96-6.27V,500	
4	DZ807	0403-000700 DIODE-ZENER;TZP33A,33V,31-35V,	
4	DZ802	0403-000716 DIODE-ZENER;MTZJ4.7B,4.7V,4.55-4.8V,500m	
4	DZ306	0403-001167 DIODE-ZENER;MTZJ30D,30V,29.02-30.51V,500	
4	DZ801	0403-001211 DIODE-ZENER;MTZJ12B,11.44-12.03V,500MW,D	
4	DZ305	0403-001221 DIODE-ZENER;UZ39B8S,35.36-37.19V,500MW,D	
4	DZ806	0403-001318 DIODE-ZENER;MTZJ4.3B,4.17-4.43V,500mW,DO	
4	DZ805	0403-001322 DIODE-ZENER;MTZJ8.2B,7.78-8.19V,500mW,DO	
4	DZ804	0403-001327 DIODE-ZENER;MTZJ18A,16.22-17.06V,500mW,D	
4	DZ302	0403-001329 DIODE-ZENER;MTZJ24B,22.61-23.77V,500mW,	
4	DZ303	0403-001329 DIODE-ZENER;MTZJ24B,22.61-23.77V,500mW,	
4	DZ304	0403-001329 DIODE-ZENER;MTZJ24B,22.61-23.77V,500mW,	
4	DZ803	0403-001330 DIODE-ZENER;MTZJ30A,26.99-28.39V,500mW,D	
△ 4	D836	0404-000156 DIODE-SCHOTTKY;RB441Q,10V,100MA,DO-34,TP	
△ 4	D808	0404-001056 DIODE-SCHOTTKY;RK16,60V,1.5A,DO-204AC,TP	
△ 4	D810	0404-001056 DIODE-SCHOTTKY;RK16,60V,1.5A,DO-204AC,TP	
△ 4	QR01S	0501-000283 TRANSISTOR;KSA539-Y(TAPG)/YTAM	
4	Q402	0501-000369 TRANSISTOR;KSC2331-Y(TAPG)	
4	Q802	0501-000389 TRANSISTOR;KSC815-Y(TAPG)/YTAM	
4	Q601	0501-000398 TR-SMALLSIGNAL;KSC945,NPN,60V,	
4	Q811	0501-000398 TR-SMALLSIGNAL;KSC945,NPN,60V,	
4	Q602	0504-000142 TR-DIGITAL;KSR2001,PNP,300MW,4	
4	Q812	0504-000142 TR-DIGITAL;KSR2001,PNP,300MW,4	
4	Q803	1203-001217 IC-POST,ADJUSTREG;431,TO-92,3P,4.58MIL,P	
△ 4	VP801S	1405-000152 VARISTOR;560V,2500A,14X8.5MM,T	
△ 4	VX801S	1405-000152 VARISTOR;560V,2500A,14X8.5MM,T	
4	R303	2001-000016 R-CARBON(S);10OHM,5%,1/2W,AA,TP	
4	R813	2001-000019 R-CARBON(S);10ohm,5%,1/2W,AA,TP,2.4x6.4mm	
4	R412	2001-000020 R-CARBON(S);220OHM,5%,1/2W,AA,T	
4	R837	2001-000020 R-CARBON(S);220OHM,5%,1/2W,AA,T	
4	R409	2001-000020 R-CARBON(S);220OHM,5%,1/2W,AA,T	
4	R850	2001-000028 R-CARBON(S);100OHM,5%,1/2W,AB,	
4	R407	2001-000028 R-CARBON(S);100OHM,5%,1/2W,AB,	
4	R847	2001-000037 R-CARBON(S);330OHM,5%,1/2W,AA,	
4	R511	2001-001062 R-CARBON(S);10MOHM,5%,1/2W,AA,	
4	R810	2001-000109 R-CARBON(S);470OHM,5%,1/2W,AA,	
4	R842	2001-000109 R-CARBON(S);470OHM,5%,1/2W,AA,	
4	R624	2001-000273 R-CARBON;100KOHM,5%,1/8W,AA,TP	
4	R620	2001-000281 R-CARBON;100OHM,5%,1/8W,AA,TP,	
4	R623	2001-000281 R-CARBON;100OHM,5%,1/8W,AA,TP,	
4	R820	2001-000281 R-CARBON;100OHM,5%,1/8W,AA,TP,	
4	R621	2001-000290 R-CARBON;10KOHM,5%,1/8W,AA,TP,	
4	R622	2001-000429 R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
4	R833	2001-000429 R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
4	R417	2001-000449 R-CARBON;2.2KOHM,5%,1/8W,AA,TP	
4	R829	2001-000577 R-CARBON;2KOHM,5%,1/8W,AA,TP,1	
4	R849	2001-000734 R-CARBON;4.7KOHM,5%,1/8W,AA,TP	
4	R625	2001-000780 R-CARBON;470ohm,5%,1/8W,AA,TP,1.8x3.2mm	
4	R814	2001-000800 R-CARBON;5.1KOHM,5%,1/8W,AA,TP	
4	R834	2001-000812 R-CARBON;5.6Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
4	R404	2001-001074 R-CARBON(S);130OHM,5%,1/2W,AA,TP,2.4X6.4	
4	R402	2001-001078 R-CARBON(S);15KOHM,5%,1/2W,AA,	
4	R406	2001-001078 R-CARBON(S);15KOHM,5%,1/2W,AA,	
4	R421	2001-001088 R-CARBON(S);1KOHM,5%,1/2W,AA,TP,2.4X6.4	
4	R816	2001-001088 R-CARBON(S);1KOHM,5%,1/2W,AA,TP,2.4X6.4	
4	R817	2001-001088 R-CARBON(S);1KOHM,5%,1/2W,AA,TP,2.4X6.4	
4	R504	2001-001102 R-CARBON(S);200OHM,5%,1/2W,AA,	
4	R505	2001-001102 R-CARBON(S);200OHM,5%,1/2W,AA,	
4	R506	2001-001102 R-CARBON(S);200OHM,5%,1/2W,AA,	
△ 4	RR03S	2001-001103 R-CARBON(S);20KOHM,5%,1/2W,AA,TP,2.4X6.4	
4	R410	2001-001114 R-CARBON(S);270OHM,5%,1/2W,AA,	
4	R818	2001-001131 R-CARBON(S);33KOHM,5%,1/2W,AA,	

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4	R411	2001-001139 R-CARBON(S);39KOHM,5%,1/2W,AA,	
4	R811	2001-001139 R-CARBON(S);39KOHM,5%,1/2W,AA,	
4	R825	2001-001146 R-CARBON(S);4.7OHM,5%,1/2W,AA,	
4	R826	2001-001146 R-CARBON(S);4.7OHM,5%,1/2W,AA,	
4	R403	2001-001155 R-CARBON(S);5.6Kohm,5%,1/2W,AA,TP,2.4x6.	
4	R408	2001-001155 R-CARBON(S);5.6Kohm,5%,1/2W,AA,TP,2.4x6.	
4	R807	2001-001192 R-CARBON(S);820OHM,5%,1/2W,AB,	
△	RP801S	2002-001010 R-COMPOSITION;1.8MOHM,5%,1/2W,AA,TP,3.7X	
△	RX801S	2002-001011 R-COMPOSITION;3.3MOhm,10%,1/2W,AA,TP,3.7	
4	R512	2002-001012 R-COMPOSITION;8.2MOhm,5%,1/2W,AA,TP,3.7X	
△	RY801S	2002-001013 R-COMPOSITION;4.7MOhm,5%,1/2W,AA,TP,3.7X	
4	R507	2002-001017 R-COMPOSITION;1K,10%,1/2W,AA,TP,3.7x9.0m	
4	R508	2002-001017 R-COMPOSITION;1K,10%,1/2W,AA,TP,3.7x9.0m	
4	R509	2002-001017 R-COMPOSITION;1K,10%,1/2W,AA,TP,3.7x9.0m	
4	R413	2003-000540 R-METALOXIDE(S);1KOHM,5%,2W,AD	
4	R802	2003-000586 R-METALOXIDE(S);22KOHM,5%,2W,A	
4	R803	2003-000586 R-METALOXIDE(S);22KOHM,5%,2W,A	
4	R510	2003-002007 R-METAL OXIDE(S);4.7KOHM,5%,2W,AF,TP,3.9	
4	R436	2003-002151 R-METALOXIDE;18KOHM,5%,2W,AG,TP,6X16	
4	R306	2003-002157 R-METAL OXIDE;220OHM,5%,2W,AG,TP,6X16MM	
4	R426	2003-002178 R-METAL OXIDE(S) 1Kohm,5%,2W,AG,TP,3.9X1	
4	R315	2004-001126 R-METAL;6.2Kohm,1%,1/8W,AA,TP,1.8x3.2m	
4	R432	2001-001194 R-CARBON(S);82KOHM,5%,1/2W,AA,	
△	RR07S	2004-001382 R-METAL(S);13KOHM,1%,1/2W,AA,TP,2.4X6.4M	
△	RR04S	2004-001402 R-METAL(S);6.8KOHM,1%,1/2W,AA,	
4	R429	2004-001403 R-METAL(S);7.5Kohm,1%,1/2W,AA,TP,2.4x6.4	
4	R821	2004-001889 R-METAL(S);127KOHM,1%,1/2W,AA,TP,2.5X6.5	
4	R301	2004-001983 R-METAL;2.49KOHM,1%,1/2W,AA,TP,2.4X6.4	
4	R819	2004-001983 R-METAL;2.49KOHM,1%,1/2W,AA,TP,2.4X6.4	
4	R302	2004-001984 R-METAL;26.7KOHM,1%,1/2W,AA,TP	
4	R314	2004-001986 R-METAL;35.7KOHM,1%,1/2W,AA,TP	
△	RR06S	2004-004029 R-METAL(S);10Kohm,1%,1/2W,AA,TP,2.5x6.5m	
△	RR02S	2004-004029 R-METAL(S);10Kohm,1%,1/2W,AA,TP,2.5x6.5m	
4	R424	2008-000253 R-FUSIBLE(S);0.47OHM,5%,1W,AF,	
4	R425	2008-000253 R-FUSIBLE(S);0.47OHM,5%,1W,AF,	
4	R435	2008-000253 R-FUSIBLE(S);0.47OHM,5%,1W,AF,	
4	R513	2008-001013 R-FUSIBLE(S);1.2ohm,5%,2W,AF,TP,3.9x10mm	
4	R304	2008-001029 R-FUSIBLE(S);5.6OHM,5%,2W,AF,T	
4	R305	2008-001029 R-FUSIBLE(S);5.6OHM,5%,2W,AF,T	
4	R824	2008-001058 R-FUSIBLE(S);0.18OHM,10%,1W,AF	
4	R405	2008-001135 R-FUSIBLE(S);3.9ohm,5%,1W,AF,TP,3.9x10mm	
4	C424	2201-000132 C-CERAMIC,DISC;100PF,10%,500V,Y5P,6X3MM,	
4	C804	2201-000332 C-CERAMIC,AC;CK45PTAPGE250V222	
4	C810	2201-000332 C-CERAMIC,AC;CK45PTAPGE250V222	
4	C843	2201-000374 C-CERAMIC,DISC;220Pf,5%,50V,CH,TP,12.5x3	
4	C817	2201-000599 C-CERAMIC,DISC;560PF,10%,500V,	
4	C820	2201-000599 C-CERAMIC,DISC;560PF,10%,500V,	
4	C824	2201-000599 C-CERAMIC,DISC;560PF,10%,500V,	
4	C828	2201-000599 C-CERAMIC,DISC;560PF,10%,500V,	
4	C407	2201-000639 C-CERAMIC,DISC;680PF,10%,2KV,Y5P,-5MM,T	
4	C814	2201-000639 C-CERAMIC,DISC;680PF,10%,2KV,Y5P,-5MM,T	
4	C504	2201-000723 C-CERAMIC,DISC;4.7nF,20%,3KV,Y5U,TP,16x5	
4	C303	2201-002022 C-CERAMIC,DISC;5PF,0.25PF,500V	
4	C301	2301-000192 C-FILM,PEF;1NF,5%,50V,5.3X10MM	
4	C309	2301-000192 C-FILM,PEF;1NF,5%,50V,5.3X10MM	
4	C411	2301-000192 C-FILM,PEF;1NF,5%,50V,5.3X10MM	
4	C821	2301-000224 C-FILM,PEF;22NF,5%,50V,7.4X3.9	
4	C840	2301-000224 C-FILM,PEF;22NF,5%,50V,7.4X3.9	
4	C811	2301-000232 C-FILM,PEF;3.3NF,5%,50V,8.1X4.	
4	C305	2301-000261 C-FILM,PEF;4.7NF,5%,100V,10.5X	
4	C306	2301-000342 C-FILM,PEF;2.2nF,5%,50V,TP,7.4x3.9x13mm,	
4	C608	2301-000356 C-FILM,PEF;47nF,5%,50V,TP,7.5x4.0x6.5,5m	
4	C610	2301-000356 C-FILM,PEF;47nF,5%,50V,TP,7.5x4.0x6.5,5m	
4	C807	2301-001397 C-FILM,PPF;2.2nF,5%,1.2kV,TP,15x8.5x13.5	
△	CR403S	2303-001001 C-FILM,PPF;22nF,5%,630V,TP,18x14.5x8.5mm	
4	C308	2305-000149 C-FILM;CF922N100VT104-J-40/105	
4	C412	2305-000178 C-FILM,MPEF;10NF,5%,100V,-5MM	
4	C304	2305-000295 C-FILM,MPEF;220NF,5%,100V,-5M	
4	C408	2305-000382 C-FILM,MPEF;4.7NF,5%,400V,TP,-5MM.	
4	C801	2305-000665 C-FILM;104J, 60V,5MM TAPING	
4	C841	2305-000665 C-FILM;104J, 60V,5MM TAPING	
4	C507	2305-000704 C-M,POLYESTER;CFS922MTAPG250V1	
4	C508	2305-000704 C-M,POLYESTER;CFS922MTAPG250V1	
4	C420	2306-000224 C-FILM,MPPF;47nF,5%,400V,TP,19x15.5x7.7.	
4	C604	2401-000133 C-AL;1000uF,20%,16V,GP,TP,10x20,5	
4	C829	2401-000133 C-AL;1000uF,20%,16V,GP,TP,10x20,5	
4	C822	2401-000142 C-AL;1000UF,20%,16V,WT,10X20MM	

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4	C818	2401-000142 C-AL;1000UF,20%,16V,WT,10X20MM	
4	C813	2401-000287 C-AL;100UF,20%,16V,WT,6X11MM,5	
4	C809	2401-000287 C-AL;100UF,20%,16V,WT,6X11MM,5	
4	C816	2401-000293 C-ELECTROLYTIC;CE04WTAPG200V10	
4	C302	2401-000360 C-AL;100UF,20%,50V,GP,8X11MM,5	
4	C307	2401-000360 C-AL;100UF,20%,50V,GP,8X11MM,5	
4	C505	2401-000430 C-ELECTROLYTIC;CE04WTAPG250V10	
4	C506	2401-000430 C-ELECTROLYTIC;CE04WTAPG250V10	
4	C406	2401-000480 C-AL;10UF,20%,50V,GP,5X11MM,5M	
△	CR02S	2401-000480 C-AL;10UF,20%,50V,GP,5X11MM,5M	
4	C848	2401-000689 C-AL;2200UF,20%,16V,GP,13X25MM	
4	C422	2401-000927 C-AL;22UF,20%,250V,GP,13X20MM,	
4	C808	2401-001192 C-AL;33UF,20%,50V,GP,6X11MM,5MM,TP	
4	C421	2401-001232 C-AL;4.7UF,20%,250V,GP,10X12.5	
4	C402	2401-001397 C-AL;470UF,20%,25V,GP,10X16MM,	
4	C404	2401-001397 C-AL;470UF,20%,25V,GP,10X16MM,	
4	C802	2401-001496 C-AL;47UF,20%,16V,GP,5X7MM,5MM	
4	C812	2401-001840 C-AL;100UF,20%,16V,GP,TP,6.3X1	
4	C609	2401-001914 C-AL;1uF,20%,50V,BP,TP,5x11,5	
4	C611	2401-001914 C-AL;1uF,20%,50V,BP,TP,5x11,5	
4	C620	2401-002144 C-AL;47uF,20%,16V,GP,TP,5x11,5	
4	C605	2401-002235 C-ELECTROLYTIC;CE04WT(1)16V10M	
△	CR03S	2401-002235 C-ELECTROLYTIC;CE04WT(1)16V10M	
4	C427	2401-002267 C-AL;2.2UF,20%,250V,GP,8X12MM,	
4	C803	2401-002300 C-ELECTROLYTIC;CE04WTAPG50V47U	
4	C839	2401-002463 C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE	
4	C819	2401-002463 C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE	
4	C805	2401-002463 C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE	
4	C826	2401-002463 C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE	
4	C830	2401-002463 C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE	
4	C847	2401-002463 C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE	
4	C414	2401-002619 C-AL;47uF,20%,25V,GP,TP,5x11,5	
4	C621	2401-003034 C-AL;220UF,20%,16V,WT,TP,8X11.	
4	C815	2401-003058 C-AL;100UF,20%,200V,WT,16X25MM	
4	L501	2701-000002 INDUCTOR-AXIAL;100UH,10%,4.2X9	
4	L806	2701-000002 INDUCTOR-AXIAL;100UH,10%,4.2X9	
4	L308	2701-000114 INDUCTOR-AXIAL;10UH,10%,2.5X3.	
4	L309	2701-000114 INDUCTOR-AXIAL;10UH,10%,2.5X3.	
4	L805	2701-000115 INDUCTOR-AXIAL;10UH,10%,2.8X7M	
4	L808	2701-001007 INDUCTOR-AXIAL;24uH,10%,4.5x14mm	
4	L804	2901-000297 FILTER-EMI ON BOARD;-3A,-,3.5x5,TP,-	
4	L302	3301-000287 CORE-FERRITEBEAD;AA,3.5X1.0X6.	
4	L304	3301-000287 CORE-FERRITEBEAD;AA,3.5X1.0X6.	
4	L305	3301-000287 CORE-FERRITEBEAD;AA,3.5X1.0X6.	
4	L801	3301-000287 CORE-FERRITEBEAD;AA,3.5X1.0X6.	
4	L809	3301-000287 CORE-FERRITEBEAD;AA,3.5X1.0X6.	
△	FA801S	3601-001086 FUSE-AXIAL LEAD;125V,5A,FAST-ACTING,GLAS	
4	F801A	3602-000114 FUSE-HOLDER;-,-,30MOHM	
4	F801B	3602-000114 FUSE-HOLDER;-,-,30MOHM	
4	J301	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J302	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J401	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J402	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J403	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J404	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J405	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J408	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J501	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J502	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J601	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J602	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J603	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J604	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J605	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J607	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J801	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J802	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J803	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J804	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J805	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J806	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J807	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J808	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J809	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	J810	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	L802	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	R501	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	



Loc. No.	Code No.	Description ; Specification	Remark
4	R502	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	R503	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
△	L401	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
4	00VER	AA41-00666A PCB-POWER CRT;21J5,FR-1,1L,A,1.6T,245X24	
4	EY01	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY02	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY03	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY04	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY05	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY06	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY07	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY08	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY10	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY11	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY12	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY13	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY14	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY15	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY16	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY17	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY19	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY20	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY21	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY22	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY23	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY24	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY25	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY26	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY27	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY28	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY29	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY30	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY33	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY34	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY35	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY36	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY18	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY37	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY38	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY39	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY40	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY41	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY42	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY43	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY44	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY45	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EY46	AA60-40011A EYELET;-ID2.0,OD2.8,-,-,BST	
4	EL01	AA60-40011B EYELET;-ID2.2,OD3.2,-,-,BSP	
4	EL701	AA60-40011B EYELET;-ID2.2,OD3.2,-,-,BSP	
4	EL702	AA60-40011B EYELET;-ID2.2,OD3.2,-,-,BSP	
4	EL06	AA60-40011B EYELET;-ID2.2,OD3.2,-,-,BSP	
4	EL07	AA60-40011B EYELET;-ID2.2,OD3.2,-,-,BSP	
4	GT05	AA60-40014A PIN-GT,ASSY;1P,-,-,AUTO	
4	GT06	AA60-40014A PIN-GT,ASSY;1P,-,-,AUTO	
4	GT07	AA60-40014A PIN-GT,ASSY;1P,-,-,AUTO	
4	GT08	AA60-40014A PIN-GT,ASSY;1P,-,-,AUTO	
4	GT09	AA60-40014A PIN-GT,ASSY;1P,-,-,AUTO	
4	GT10	AA60-40014A PIN-GT,ASSY;1P,-,-,AUTO	
4	GT11	AA60-40014A PIN-GT,ASSY;1P,-,-,AUTO	
4	GT12	AA60-40014A PIN-GT,ASSY;1P,-,-,AUTO	
4	GT502	AA60-40014A PIN-GT,ASSY;1P,-,-,AUTO	
4	GT503	AA60-40014A PIN-GT,ASSY;1P,-,-,AUTO	
△	DZ501	0403-000719 DIODE-ZENER;MTZJ7.5B,7.5V,7.07-7.45V,500	
△	RR401S	2004-001390 R-METAL(S);1KOHM,2%,1/2W,AA,TP	
4	C823	2201-000108 C-CERAMIC,DISC;1.5NF,10%,1KV,Y	
4	R822	2008-001109 R-FUSIBLE(S);0.18ohm,10%,2W,AG,TP;3.9x12	
4	C622	2401-001513 C-AL;47UF,20%,16V,WT;5X11MM,5M	
△	FA802S	3601-001199 FUSE-AXIAL LEAD;125V,3A,SLOW-BLOW,EPOXY,	
△	DZR01S	0403-000718 DIODE-ZENER;MTZJ6.8B,6.8V,6.49-6.83V,500	
4	L303	2701-001032 INDUCTOR-AXIAL;100UH,10%,5X14MM	
4	L/LINE	AA68-01544A LABEL-LINE,ALL MDL COMMON	
3	CW	AA65-30104C CLAMP-WIRE,NYLON 66,V2,NTR,W1 Z4,ALL MOD	
3	CN301	AA60-40012D PIN-GT,ASSY;4P,T1.6,6-12.5-14MM,NYLON66	
△	PWR/AC	AA96-20129K ASSY POWER CORD;EP2/YES,H/S 450MM,KJ10W	
4		AA39-10007Y POWER-CORD,-,EP2/YES,SPT-2 18AWGx2C,2.4m	
4		AA61-20284A HOLDER P CORD;PP,VO,BLK,KE-002	
2	A/INT	AA96-01085A ASSY MISC P-INTERFACE;V18A,20,TORNADO	

Loc. No.	Code No.	Description ; Specification	Remark
3	DD101	0401-000005 DIODE;1N4148,100V,300mA,1V,8nS,TAPING	
3	DD104	0401-000005 DIODE;1N4148,100V,300mA,1V,8nS,TAPING	
3	DD505	0401-000005 DIODE;1N4148,100V,300mA,1V,8nS,TAPING	
3	DD506	0401-000005 DIODE;1N4148,100V,300mA,1V,8nS,TAPING	
3	DD507	0401-000005 DIODE;1N4148,100V,300mA,1V,8nS,TAPING	
3	DD508	0401-000005 DIODE;1N4148,100V,300mA,1V,8nS,TAPING	
3	DD602	0401-000005 DIODE;1N4148,100V,300mA,1V,8nS,TAPING	
3	DD603	0401-000005 DIODE;1N4148,100V,300mA,1V,8nS,TAPING	
3	DD604	0401-000005 DIODE;1N4148,100V,300mA,1V,8nS,TAPING	
3	ZDD102	0403-000508 DIODE-ZENER;MTZJ5.6B,5.6V,5.45-5.73V,500	
3	ZDD104	0403-000508 DIODE-ZENER;MTZJ5.6B,5.6V,5.45-5.73V,500	
3	ZDD103	0403-000714 DIODE-ZENER;MTZJ3.3B,3.3V,3.32-3.53V,500	
3	ZDD101	0403-001211 DIODE-ZENER;MTZJ12B,11.44-12.03V,500MW,D	
3	DD102	0404-000156 DIODE-SCHOTTKY;RB441Q,10V,100MA,DO-34,TP	
3	DD103	0404-000156 DIODE-SCHOTTKY;RB441Q,10V,100MA,DO-34,TP	
3	QD301	0501-000283 TRANSISTOR;KSA539-Y(TAPG)/YTAM	
3	QD302	0501-000283 TRANSISTOR;KSA539-Y(TAPG)/YTAM	
3	QD303	0501-000283 TRANSISTOR;KSA539-Y(TAPG)/YTAM	
3	QD603	0501-000283 TRANSISTOR;KSA539-Y(TAPG)/YTAM	
3	QD101	0501-000362 TRANSISTOR;KSC2328A-Y/2SC2655-	
3	QD102	0501-000362 TRANSISTOR;KSC2328A-Y/2SC2655-	
3	QD103	0501-000362 TRANSISTOR;KSC2328A-Y/2SC2655-	
3	QD108	0501-000362 TRANSISTOR;KSC2328A-Y/2SC2655-	
3	QD109	0501-000362 TRANSISTOR;KSC2328A-Y/2SC2655-	
3	QD501	0501-000398 TR-SMALLSIGNAL;KSC945,NPN,60V,	
3	QD502	0501-000398 TR-SMALLSIGNAL;KSC945,NPN,60V,	
3	QD105	0504-000119 TR-DIGITAL;KSR1004,NPN,300MW,4	
3	QD107	0504-000119 TR-DIGITAL;KSR1004,NPN,300MW,4	
3	QD104	0504-000142 TR-DIGITAL;KSR2001,PNP,300MW,4	
3	QD106	0504-000142 TR-DIGITAL;KSR2001,PNP,300MW,4	
3	ICD602	1203-001274 IC-VOL.DETECTOR;7545,TO-92,3P-,PLASTIC	
3	RD639	2001-000010 R-CARBON;68Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
3	RD304	2001-000109 R-CARBON(S);470OHM,5%,1/2W,AA,	
3	RD305	2001-000109 R-CARBON(S);470OHM,5%,1/2W,AA,	
3	RD306	2001-000109 R-CARBON(S);470OHM,5%,1/2W,AA,	
3	RD701	2001-000273 R-CARBON;100KOHM,5%,1/8W,AA,TP	
3	RD703	2001-000273 R-CARBON;100KOHM,5%,1/8W,AA,TP	
3	RD504	2001-000281 R-CARBON;100OHM,5%,1/8W,AA,TP,	
3	RD505	2001-000281 R-CARBON;100OHM,5%,1/8W,AA,TP,	
3	RD506	2001-000281 R-CARBON;100OHM,5%,1/8W,AA,TP,	
3	RD507	2001-000281 R-CARBON;100OHM,5%,1/8W,AA,TP,	
3	RD602	2001-000281 R-CARBON;100OHM,5%,1/8W,AA,TP,	
3	RD603	2001-000281 R-CARBON;100OHM,5%,1/8W,AA,TP,	
3	RD604	2001-000281 R-CARBON;100OHM,5%,1/8W,AA,TP,	
3	RD605	2001-000281 R-CARBON;100OHM,5%,1/8W,AA,TP,	
3	RD606	2001-000281 R-CARBON;100OHM,5%,1/8W,AA,TP,	
3	RD607	2001-000281 R-CARBON;100OHM,5%,1/8W,AA,TP,	
3	RD611	2001-000281 R-CARBON;100OHM,5%,1/8W,AA,TP,	
3	RD612	2001-000281 R-CARBON;100OHM,5%,1/8W,AA,TP,	
3	RD613	2001-000281 R-CARBON;100OHM,5%,1/8W,AA,TP,	
3	RD615	2001-000281 R-CARBON;100OHM,5%,1/8W,AA,TP,	
3	RD622	2001-000281 R-CARBON;100OHM,5%,1/8W,AA,TP,	
3	RD623	2001-000281 R-CARBON;100OHM,5%,1/8W,AA,TP,	
3	RD624	2001-000281 R-CARBON;100OHM,5%,1/8W,AA,TP,	
3	RD625	2001-000281 R-CARBON;100OHM,5%,1/8W,AA,TP,	
3	RD626	2001-000281 R-CARBON;100OHM,5%,1/8W,AA,TP,	
3	RD627	2001-000281 R-CARBON;100OHM,5%,1/8W,AA,TP,	
3	RD628	2001-000281 R-CARBON;100OHM,5%,1/8W,AA,TP,	
3	RD702	2001-000281 R-CARBON;100OHM,5%,1/8W,AA,TP,	
3	RD704	2001-000281 R-CARBON;100OHM,5%,1/8W,AA,TP,	
3	RD508	2001-000290 R-CARBON;10KOHM,5%,1/8W,AA,TP,	
3	RD509	2001-000290 R-CARBON;10KOHM,5%,1/8W,AA,TP,	
3	RD510	2001-000290 R-CARBON;10KOHM,5%,1/8W,AA,TP,	
3	RD523	2001-000290 R-CARBON;10KOHM,5%,1/8W,AA,TP,	
3	RD524	2001-000290 R-CARBON;10KOHM,5%,1/8W,AA,TP,	
3	RD616	2001-000290 R-CARBON;10KOHM,5%,1/8W,AA,TP,	
3	RD617	2001-000290 R-CARBON;10KOHM,5%,1/8W,AA,TP,	
3	RD629	2001-000290 R-CARBON;10KOHM,5%,1/8W,AA,TP,	
3	RD630	2001-000290 R-CARBON;10KOHM,5%,1/8W,AA,TP,	
3	RD631	2001-000290 R-CARBON;10KOHM,5%,1/8W,AA,TP,	
3	RD632	2001-000290 R-CARBON;10KOHM,5%,1/8W,AA,TP,	
3	RD633	2001-000290 R-CARBON;10KOHM,5%,1/8W,AA,TP,	
3	RD634	2001-000290 R-CARBON;10KOHM,5%,1/8W,AA,TP,	
3	RD635	2001-000290 R-CARBON;10KOHM,5%,1/8W,AA,TP,	
3	RD636	2001-000290 R-CARBON;10KOHM,5%,1/8W,AA,TP,	
3	RD637	2001-000290 R-CARBON;10KOHM,5%,1/8W,AA,TP,	
3	RD643	2001-000290 R-CARBON;10KOHM,5%,1/8W,AA,TP,	

Loc. No.	Code No.	Description ; Specification	Remark
3	RD644	2001-000290 R-CARBON;10KOHM,5%,1/8W,AA,TP,	
3	RD646	2001-000290 R-CARBON;10KOHM,5%,1/8W,AA,TP,	
3	RD647	2001-000290 R-CARBON;10KOHM,5%,1/8W,AA,TP,	
3	RD648	2001-000290 R-CARBON;10KOHM,5%,1/8W,AA,TP,	
3	RD649	2001-000290 R-CARBON;10KOHM,5%,1/8W,AA,TP,	
3	RD650	2001-000290 R-CARBON;10KOHM,5%,1/8W,AA,TP,	
3	RD651	2001-000290 R-CARBON;10KOHM,5%,1/8W,AA,TP,	
3	RD653	2001-000290 R-CARBON;10KOHM,5%,1/8W,AA,TP,	
3	RD655	2001-000290 R-CARBON;10KOHM,5%,1/8W,AA,TP,	
3	RD657	2001-000290 R-CARBON;10KOHM,5%,1/8W,AA,TP,	
3	RD664	2001-000290 R-CARBON;10KOHM,5%,1/8W,AA,TP,	
3	RD665	2001-000290 R-CARBON;10KOHM,5%,1/8W,AA,TP,	
3	RD666	2001-000290 R-CARBON;10KOHM,5%,1/8W,AA,TP,	
3	RD501	2001-000429 R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
3	RD502	2001-000429 R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
3	RD525	2001-000429 R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
3	RD526	2001-000429 R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
3	RD608	2001-000429 R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
3	RD610	2001-000429 R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
3	RD618	2001-000429 R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
3	RD619	2001-000429 R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
3	RD620	2001-000429 R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
3	RD621	2001-000429 R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
3	RD638	2001-000429 R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
3	RD641	2001-000429 R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
3	RD642	2001-000429 R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
3	RD645	2001-000429 R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
3	RD654	2001-000429 R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
3	RD659	2001-000429 R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
3	RD660	2001-000429 R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
3	RD661	2001-000429 R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
3	RD662	2001-000429 R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
3	RD663	2001-000429 R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
3	RD685	2001-000429 R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
3	RD104	2001-000449 R-CARBON;2.2KOHM,5%,1/8W,AA,TP	
3	RD105	2001-000449 R-CARBON;2.2KOHM,5%,1/8W,AA,TP	
3	RD107	2001-000449 R-CARBON;2.2KOHM,5%,1/8W,AA,TP	
3	RD514	2001-000490 R-CARBON;200OHM,5%,1/8W,AA,TP,	
3	RD515	2001-000490 R-CARBON;200OHM,5%,1/8W,AA,TP,	
3	RD520	2001-000490 R-CARBON;200OHM,5%,1/8W,AA,TP,	
3	RD521	2001-000490 R-CARBON;200OHM,5%,1/8W,AA,TP,	
3	RD527	2001-000515 R-CARBON;220OHM,5%,1/8W,AA,TP,	
3	RD528	2001-000515 R-CARBON;220OHM,5%,1/8W,AA,TP,	
3	RD534	2001-000515 R-CARBON;220OHM,5%,1/8W,AA,TP,	
3	RD535	2001-000515 R-CARBON;220OHM,5%,1/8W,AA,TP,	
3	RD668	2001-000515 R-CARBON;220OHM,5%,1/8W,AA,TP,	
3	RD511	2001-000734 R-CARBON;4.7KOHM,5%,1/8W,AA,TP	
3	RD512	2001-000734 R-CARBON;4.7KOHM,5%,1/8W,AA,TP	
3	RD513	2001-000734 R-CARBON;4.7KOHM,5%,1/8W,AA,TP	
3	RD516	2001-000734 R-CARBON;4.7KOHM,5%,1/8W,AA,TP	
3	RD517	2001-000734 R-CARBON;4.7KOHM,5%,1/8W,AA,TP	
3	RD518	2001-000734 R-CARBON;4.7KOHM,5%,1/8W,AA,TP	
3	RD519	2001-000734 R-CARBON;4.7KOHM,5%,1/8W,AA,TP	
3	RD522	2001-000734 R-CARBON;4.7KOHM,5%,1/8W,AA,TP	
3	RD640	2001-000832 R-CARBON;510OHM,5%,1/8W,AA,TP,	
3	RD102	2001-001088 R-CARBON(S);1KOHM,5%,1/2W,AA,TP,2.4X6.4	
3	RD108	2001-001088 R-CARBON(S);1KOHM,5%,1/2W,AA,TP,2.4X6.4	
3	RD101	2001-001107 R-CARBON(S);220OHM,5%,1/2W,AA,	
3	RD103	2001-001107 R-CARBON(S);220OHM,5%,1/2W,AA,	
3	CD508	2201-000558 C-CERAMIC,DISC;470PF,10%,50V,Y	
3	CD509	2201-000558 C-CERAMIC,DISC;470PF,10%,50V,Y	
3	CD511	2201-000558 C-CERAMIC,DISC;470PF,10%,50V,Y	
3	CD512	2201-000558 C-CERAMIC,DISC;470PF,10%,50V,Y	
3	CD101	2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP	
3	CD109	2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP	
3	CD506	2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP	
3	CD514	2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP	
3	CD523	2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP	
3	CD603	2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP	
3	CD501	2202-000632 C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP	
3	CD602	2202-000797 C-CERAMIC,MLC-AXIAL;10nF,30%,16V,Y5S,TP,	
3	CD507	2301-000232 C-FILM,PEF;3.3NF,5%,50V,8.1X4.	
3	CD510	2301-000232 C-FILM,PEF;3.3NF,5%,50V,8.1X4.	
3	CD505	2401-000914 C-AL;22UF,20%,16V,GP,TP,5x11.5,TP	
3	CD114	2401-002009 C-AL;100UF,20%,16V,GP,TP,6.3X7	
3	CD601	2401-002009 C-AL;100UF,20%,16V,GP,TP,6.3X7	
3	CD513	2401-002144 C-AL;47uF,20%,16V,GP,TP,5x11.5	

Loc. No.	Code No.	Description ; Specification	Remark
3	CD104	2401-002144 C-AL;47uF,20%,16V,GP,TP,5x11.5	
3	CD517	2401-002235 C-ELECTROLYTIC;CE04W(T)16V10M	
3	CD518	2401-002235 C-ELECTROLYTIC;CE04W(T)16V10M	
3	CD102	2401-002463 C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE	
3	CD105	2401-002463 C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE	
3	CD106	2401-002463 C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE	
3	CD107	2401-002463 C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE	
3	CD110	2401-002463 C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE	
3	CD111	2401-002463 C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE	
3	CD112	2401-002463 C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE	
3	CD113	2401-002463 C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE	
3	CD301	2401-002463 C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE	
3	CD302	2401-002463 C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE	
3	CD303	2401-002463 C-ELECTROLYTIC;CE04WTAPG16V470M-M(SG)-VE	
3	LD501	2701-000112 INDUCTOR-AXIAL;100UH,10%,2.8X7	
3	XTD601	2802-000194 RESONATOR-CERAMIC;8MHz,1.0%,TP,8.5x4.5x5	
3	BD501	3301-000287 CORE-FERRITEBEAD;AA,3.5X1.0X6.	
3	BD502	3301-000287 CORE-FERRITEBEAD;AA,3.5X1.0X6.	
3	SWD701	3404-000244 SWITCH-TACT;15V,20MA,90-170GF,	
3	SWD702	3404-000244 SWITCH-TACT;15V,20MA,90-170GF,	
3	SWD703	3404-000244 SWITCH-TACT;15V,20MA,90-170GF,	
3	SWD704	3404-000244 SWITCH-TACT;15V,20MA,90-170GF,	
3	SWD705	3404-000244 SWITCH-TACT;15V,20MA,90-170GF,	
3	JD005	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	JD006	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	JD008	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	JD009	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	JD010	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	JD011	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	JD012	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	JD014	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	JD016	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	JD017	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	JD018	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	JD019	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	JD020	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	JD021	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	JD022	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	JD023	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	JD024	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	JD025	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	JD026	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	JD027	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	JD028	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	JD029	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	JD030	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	JD033	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	JD034	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	JD035	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	JD036	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	JD037	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	JD038	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	JD040	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	JD041	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	JD042	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	JD043	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	JD044	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	JD045	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	JD047	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	JD048	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	JD049	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	JD013	3812-000219 JUMPER-WIRE-SQ,COPPER;TA0.6SN/52M/M(A	
3	00VER	AA41-00665A PCB-INTERFACE-SMD-29J5,FR-1,1LA,1.6T,33	
3	FLD501	2901-001125 FILTER-EMI ON BOARD;50V,0.5A,-,220pf,7x2	
3	RD106	2006-000162 R-CEMENT;2.7ohm,5%,5W,CB,BK,10x13x25.4m	
3	CN11	3708-001364 CONNECTOR-FPC/FFC/PIC;35P;1.25MM,STRAIGH	
3	DCN003	3708-001695 CONNECTOR-FPC/FFC/PIC;13P;1MM,STRAIGHT,S	
3	DCN006	3708-001695 CONNECTOR-FPC/FFC/PIC;13P;1MM,STRAIGHT,S	
3	DCN005	3708-001696 CONNECTOR-FPC/FFC/PIC;24P;1MM,STRAIGHT,S	
3	DCN007	3708-001696 CONNECTOR-FPC/FFC/PIC;24P;1MM,STRAIGHT,S	
3	DCN002	3711-001018 CONNECTOR-HEADER;BOX,5P,1R,2mm,STRAIGHT,	
3	JKD01	3722-001749 JACK-PIN;3P(3P)-,NI,YEL/WHT/RED,-	
3	DCN06A	3809-001358 CABLE-FLAT;60V,80C,200MM,13P;1MM,UL20624	
3	DCN07A	3809-001359 CABLE-FLAT;60V,80C,200MM,24P;1MM,UL20624	
3	CN11A	3809-001360 CABLE-FLAT;30V,80C,150MM,35P;1.25MM,UL28	
3	CND002	AA39-00074A LEAD CONNECTOR-ASSY;8P,YBNH250-08,35155	
3	CND001	AA39-00116C LEAD CONNECTOR-ASSY;12P,YBNH250-12,3515	

Loc. No.	Code No.	Description ; Specification	Remark
3	CND004	AA39-00117D LEAD CONNECTOR ASSY;V18A,UL1007#26,UL/CS	
3	DCN001	AA39-00229C LEAD CONNECTOR ASSY;V18A,UL1007#26,UL/CS	
3	CN12	AA39-00329A LEAD CONNECTOR ASSY;V18A,UL1007#26,UL/CS	
3	CND003	AA39-20005G LEAD CONNECTOR ASSY;V18A,UL1007#26,UL/CS	
3	ICD503	0801-000442 IC-CMOS LOGIC;74HCU04,INVERTER,SOP,14P,1	
3	ICD501	1002-001241 IC-D/A CONVERTER;AK4382VT,24BIT,TSSOP,16	
3	ICD502	1201-000163 IC-OP AMP;4560,SOP8P,173MIL,DUAL,100V/m	
3	ICD601	AA09-00305A IC MICOM;UPD78F0034AGC-580-8B,SNM-746,64	
2	A/DECK	AA96-00959A ASSY MISC P-M-DECK; , ,6HD,19UM,NTSC,HQ	
2	A/DVD	AA96-00976A ASSY MISC P-M/DVDP;DVD-DS002/SAM,V18A, ,	
2	A/DVDP	AA96-00977A ASSY MISC P-PCB,M/DVDP;DVD-PSA21/SAM,V18	
2	CW	AA65-00011C CLAMP-WIRE;ALL MODEL,NYLON 66,V2,NTR,25M	
2	HP+HD	6002-000522 SCREW-TAPPING;TH,+,2,M4,L15,ZP	
2	VDEC+H	6002-000522 SCREW-TAPPING;TH,+,2,M4,L15,ZP	
2	IP+HD	6003-001023 SCREW-TAPTITERWH,+,B,M3,L10,ZPC(YEL)	
2	MAINP+	6003-001023 SCREW-TAPTITERWH,+,B,M3,L10,ZPC(YEL)	
2	POWERP	6003-001023 SCREW-TAPTITERWH,+,B,M3,L10,ZPC(YEL)	
2	SDVD+H	6003-001023 SCREW-TAPTITERWH,+,B,M3,L10,ZPC(YEL)	
2	SVCR+H	6003-001023 SCREW-TAPTITERWH,+,B,M3,L10,ZPC(YEL)	
2	H/D	AA61-01184A HOLDER-DECK;COMBO,HIPS V0,G4309	
2	H/P	AA61-01185A HOLDER-PCB;COMBO,HIPS V0,G4309	
2	H/T	AA61-01187A HOLDER-TRAY;21J5,ABS HB,BLK	
2	SH/V	AA63-00594A SHIELD-VCR;COMBO,SECC,T0.5	
2	SH/V	AA63-00595A SHIELD-DVD;COMBO,SECC,T0.5	
2	S/BUMP	AA60-00157A SPACER-BUMPON;COMBO,D10.2,BLK,T2.5,W10.	
2	DDECK+	6003-001022 SCREW-TAPTITE;RH,+,B,M3,L12,ZPC(BLK),SWR	
2	DVDP+H	6003-001022 SCREW-TAPTITE;RH,+,B,M3,L12,ZPC(BLK),SWR	
2	SHIELD	AA63-00443B SHIELD;TVCR,SPTE ,T0.3,SUS-DECK	
2	GT002	AA39-20497B LEAD CONNECTOR-ASSY;1P,YFH800-01,RING,2	
2	INL/BA	AA64-01763B INLAY-BARRIER,FRONT;21G5,PVC,T0.4,-,-,-	
2	CW	AA65-30014A CLAMP-WIRE;-NYLON-66,V0,-,NTR,DATL-450-	
2	FBT	AA65-30018A CLAMP-WIRE;-NYLON6.6,-,-,DATL	

## ASSY COVER REAR

1	A/REAR	AA90-03575A ASSY COVER REAR;CFTD2083TX/SMS,V18A	
2	SPCBC	AA60-00091J SPACER-FELT;-FELT,330X10,-,-,BLK,T0.5,-	
2	B/C	AA64-02811A CABINET-BACK;21J5,HIPS,V0,BLK	
2	INLAYB	AA64-02820A INLAY-BACK;21J5,PS SHEET,T0.5	
2	AC+BC	AA65-30008A CLAMP-CORD;-PE,HB,BLK,-,-	
2	CB+CF	AA60-10050T SCREW-TAPPING;RH,+,2S,M4,L20,ZPC(BLK),SW	
2	RCA+CB	AA60-10050T SCREW-TAPPING;RH,+,2S,M4,L20,ZPC(BLK),SW	

## ASSY COVER FRONT

1	A/CFRN	AA90-03561A ASSY COVER FRONT;CFTD2083TX/SMS,V18A	
2	CRT+CF	AA60-10050R SCREW-ASSY;WC,HH,+,M5,L31.5,SWR	
2	SPK+CF	6003-001026 SCREW-TAPTITE;RH,+,B,M4,L15,ZPC(BLK),SWR	
2	L/SPK	AA39-00102S LEAD-CONNECTOR,ASSY;4P,35155-0400,REC,40	
2	SPK	3001-001020 SPEAKER;3W,8ohm,90dB,140Hz	
2	F/C	AA64-02810A CABINET-FRONT;21J5,HIPS,V0,G4309,SV808P	
3	KD+CF	6003-001026 SCREW-TAPTITE;RH,+,B,M4,L15,ZPC(BLK),SWR	
3	KF+CF	6003-001026 SCREW-TAPTITE;RH,+,B,M4,L15,ZPC(BLK),SWR	
3	PC+CF	6003-001026 SCREW-TAPTITE;RH,+,B,M4,L15,ZPC(BLK),SWR	
3	WR+CF	6003-001026 SCREW-TAPTITE;RH,+,B,M4,L15,ZPC(BLK),SWR	
3	PANEL	AA64-02812A PANEL-CONTROL;21J5,HIPS,V0,G4309,SV808P	
3	DT	AA64-02814A DOOR-TRAY;21J5,ABS HB,G4309,SV808P	
3	KF	AA64-02815A KNOB-FAMILY;21J5,ABS,HB,G3676,DG703P+W97	
3	KD	AA64-02816A KNOB-DVD;21J5,ABS,HB,G3676,DG703P+W971	
3	WL	AA64-02819A WINDOW-LED;21J5,PC,CLR	
3	BRKT+C	AA60-10050T SCREW-TAPPING;RH,+,2S,M4,L20,ZPC(BLK),SW	
3	DH	AA64-02960A DOOR-HOUSUNG;21J5,ABS HB,G4309,SV808P	
3	BRK	AA61-01225A BRACKET-CRT;21J5,SECC,T2.0	
3	SDD	AA61-01223A SPRING ETC-DOOR,DVD;21J5,SUS304,T0.3	
3	SDV	AA61-01224A SPRING ETC-DOOR,VCR;21J5,SUS304,T0.4	
3	TAPE	0203-001085 TAPE-DOUBLE FACE;#4929,T0.64,W12,-,BLK	
3	L/DVD	AA68-01132F LABEL-DVD;21G5,HOLOGRAM,T0.3,425C	
3	C/F	0203-001290 TAPE-OPP MASKING;ANT 100C,T0.073,W30,L50	
2	BADGE	AA64-02890B BADGE-BRAND;50MM,AL FORGING,T1.5,10.0,50	
2	L/QMS	AA68-02391A LABEL-QMS;ART-PAPER(90)G,110x24mm	
2	SPACER	AA63-60002D SPACER-FELT;-FELT,T1.0,BLK,330X15,	

Loc. No.	Code No.	Description ; Specification	Remark
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## ASSY BOX

1	A/BOX	AA92-06249A ASSY BOX;CFTD2083TX/SMS,V18A	
2	L/BARC	AA68-01621A LABEL-BARCORDER;EDP60POUNDSSMOOT	
2	PCK	AA69-01804A PACKING CASE;21J5(SAMEX),D-2 BB,A1,654,5	

## ASSY P/MATERIAL

1	A/PACK	AA92-06250A ASSY P/MATERIAL;CFTD2083TX/SMS,V18A	
2	BXTAPE	0203-001295 TAPE-OPP MASKING;1242,T0.06,W100,L91.4M,	
2	STAPLE	AA60-40006A PIN-STAPLE;-,-,-,H18,33X17.8X2	
2	PE-BAG	AA69-01208A BAG;SHEET,19-20,W42,L50,FOAM,OEM	
2	C/SET	AA69-01692A CUSHION-SET;21J5,PS FOAMED,C=0.02	

## ASSY LABEL

1	A/LABE	AA92-06210A ASSY LABEL;CFTF2083TX/SMS,V18A	
2	L/RAT	AA68-02498A LABEL-RATING;WHITE PAPER,AKAI,UL,SAM'S C	
2	L/SET	AA68-01065H LABEL-D.H.H.S;CS21A9GFAX/AAG,A/P120(G),A	

## ASSY CPT

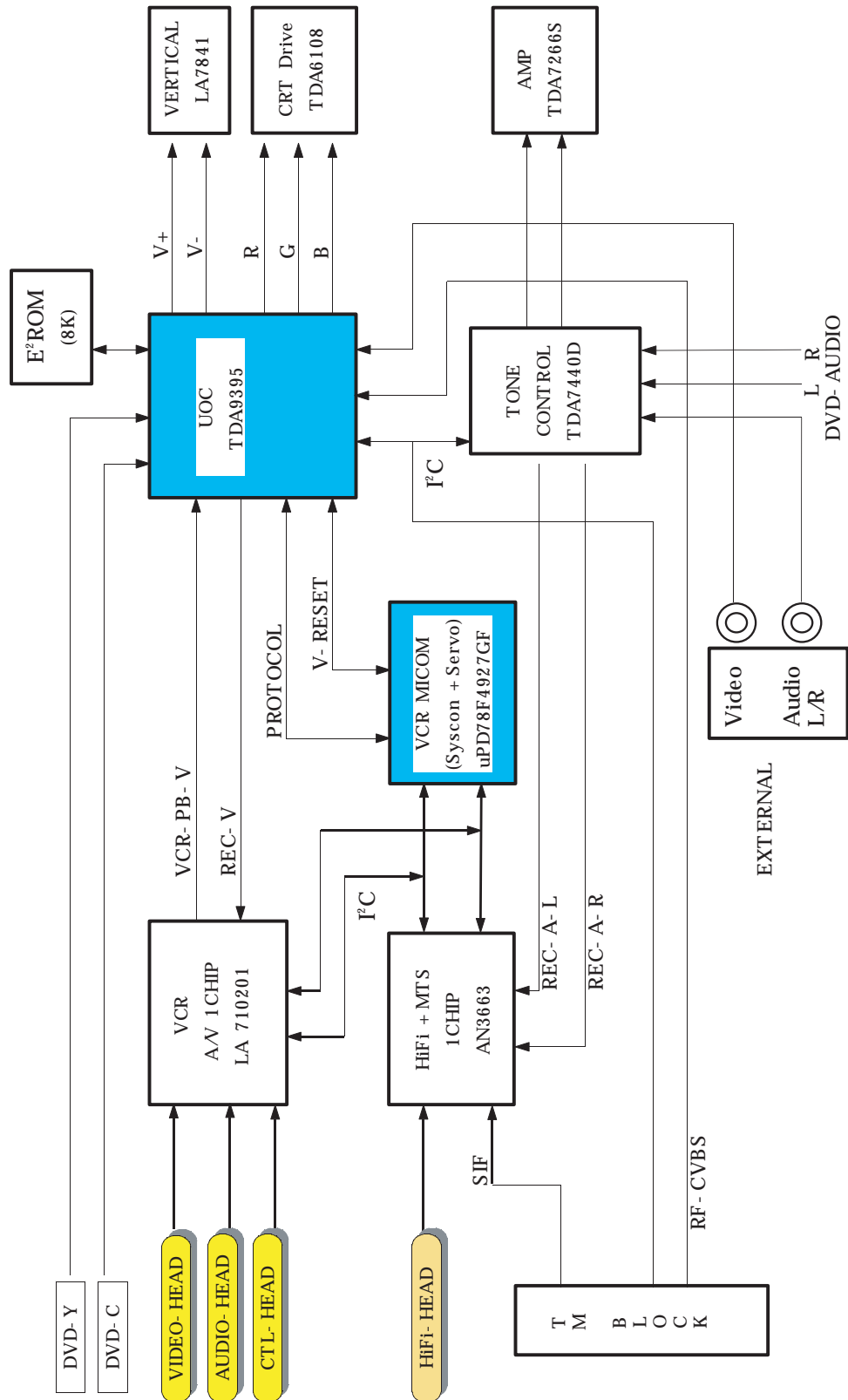
1	A/CPT	AA91-02169E ASSY CPT;A51QDX992X,21,0MG,BARE,AA03-00	
2	TAPE	0203-001303 TAPE-ACETATE;#1554,T0.25,W19,L30000,WHT	
2	CRT	AA03-00317A CRT COLOR;A51QDX992X,0MG,1.85MH,18.0MH,2	
2	C-Y	AA27-00002A MAGNET-CONVERGENCE;JH291-SC-OB,29.1M	
2	D-Y	AA27-00198A DEFLECTION YOKE;21DF,DIF-2192AA(NF),ST-3	
2	SPACER	AA63-60028A SPACER-DY;-NEOPRENE,-,BLK,V0V	
2	D-COIL	AA27-00213A COIL-DEGAUSSING;21INCH F,0.8MH,10%,23T,1	
2	A/TBC	AA98-00011B ASSY-TBC,WIRE(P);-.21INCH,PAL,2P;CS-5399	
2	CDCOIL	AA65-00009B CLAMP-D,COIL;NYLON 66,V0,-,-,21A8,-	
2	INL/CR	AA64-03072A INLAY-COVER;PS-SHEET,50X30,T1.0	

## ASSY ACCESSORY

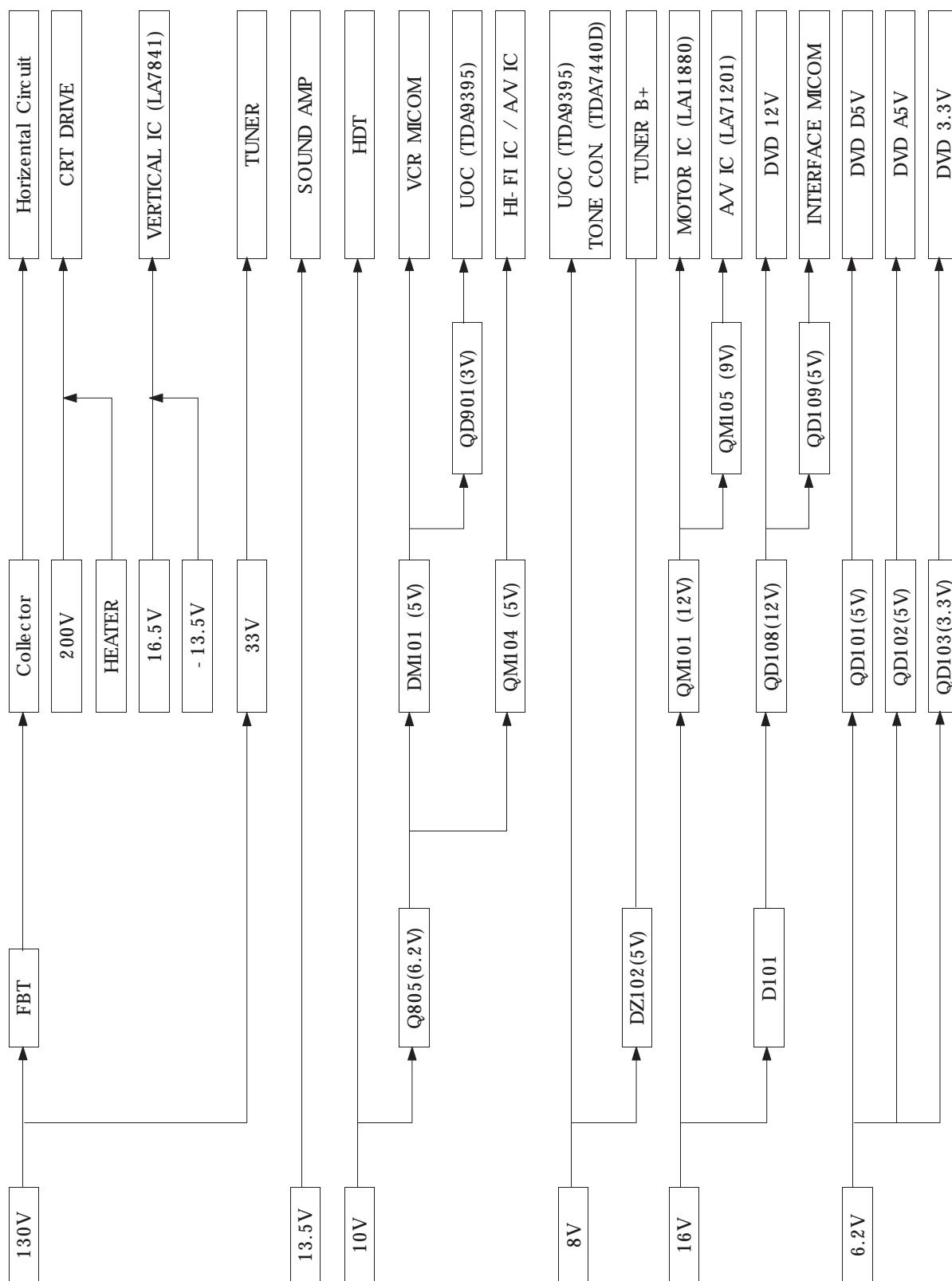
1	A/ACCE	AA92-06244A ASSY ACCESSORY;CFTD2083TX/SMS,V18A	
2	BAG-PE	AA69-01195A BAG PE;CL29A6W8X,HDPET0.012,93/4X151	
2	AC-TAP	0203-001279 TAPE-OPP MASKING;#232,T0.14,W15,L50000,Y	
2	RMT	AA59-00265A REMOCON;TM66,3WAY COMBO,53,G6671B,S/S,A	
2	C/WARR	AA68-02154A CARD WARRANTY;KS3A,1 PAGE,SAM'S CLUB,SPA	
2	BATT	4301-000120 BATTERY-MN;1.5V,-,AA	
2	I/B1	AA68-02572A MANUAL USERS;ENG,W/P100,98P,V18A	
2	I/B2	AA68-02573A MANUAL USERS;SPA,W/P100,98P,V18A	
2	W/C	AA68-02284A CARD WARRANTY;CFT2790,SMS,W/P100(G),ENG,	

## 8. Block Diagrams

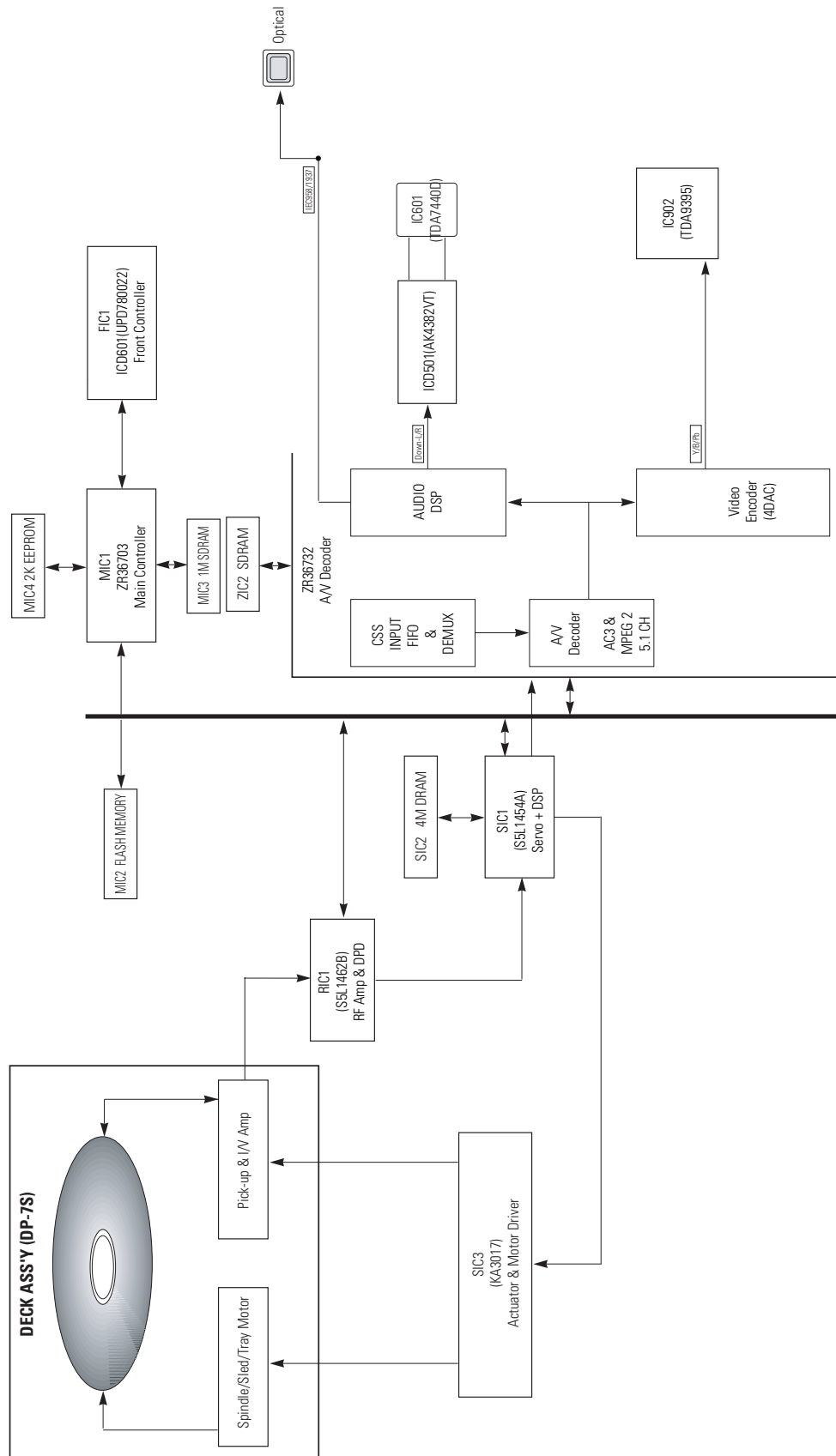
### 8-1 Signal Block Diagram



## 8-2 POWER Block Diagram



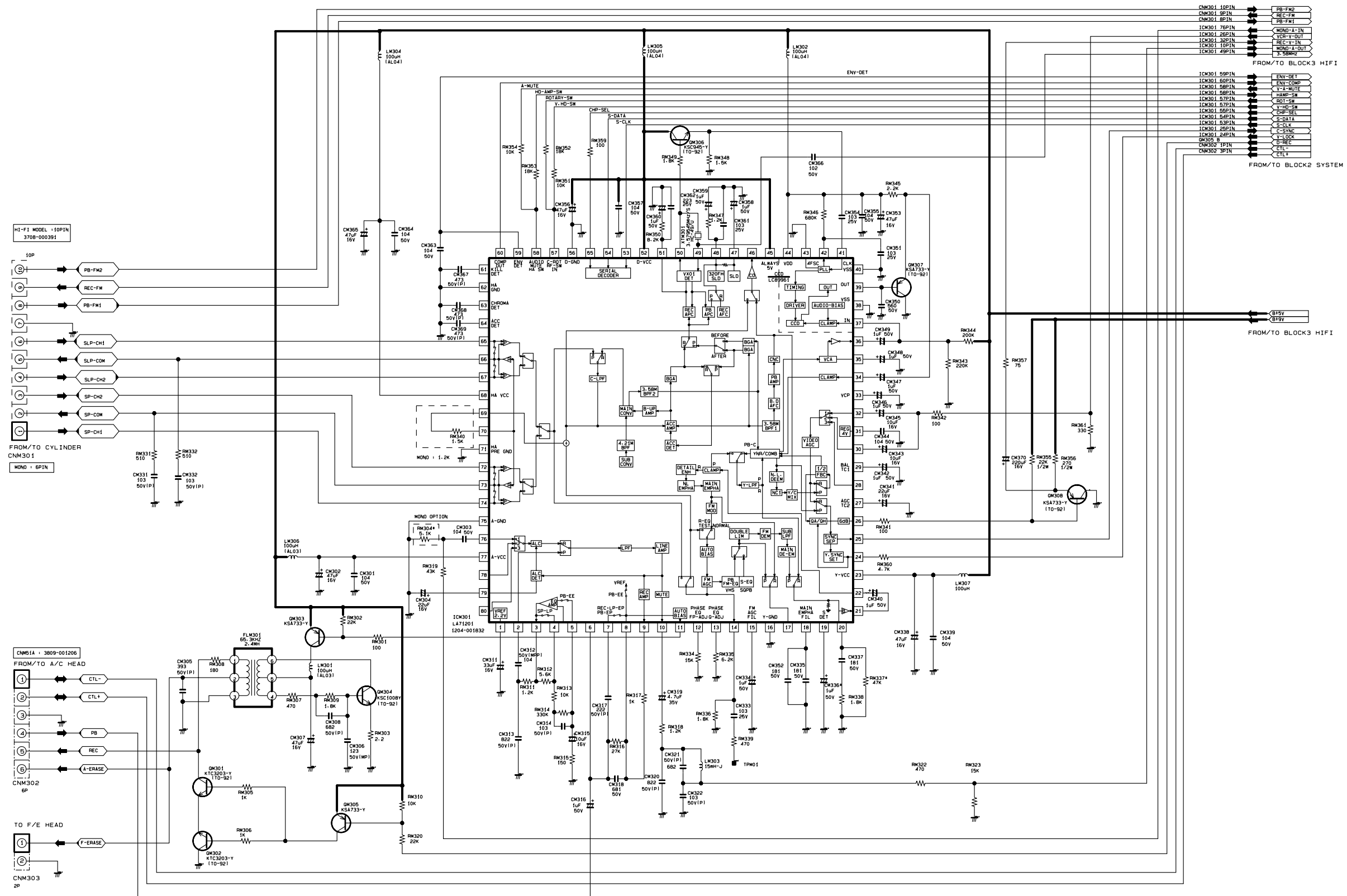
## 8-3 DVD Block



# MEMO

## 9. Schematic Diagrams

### 9-1 MAIN 1

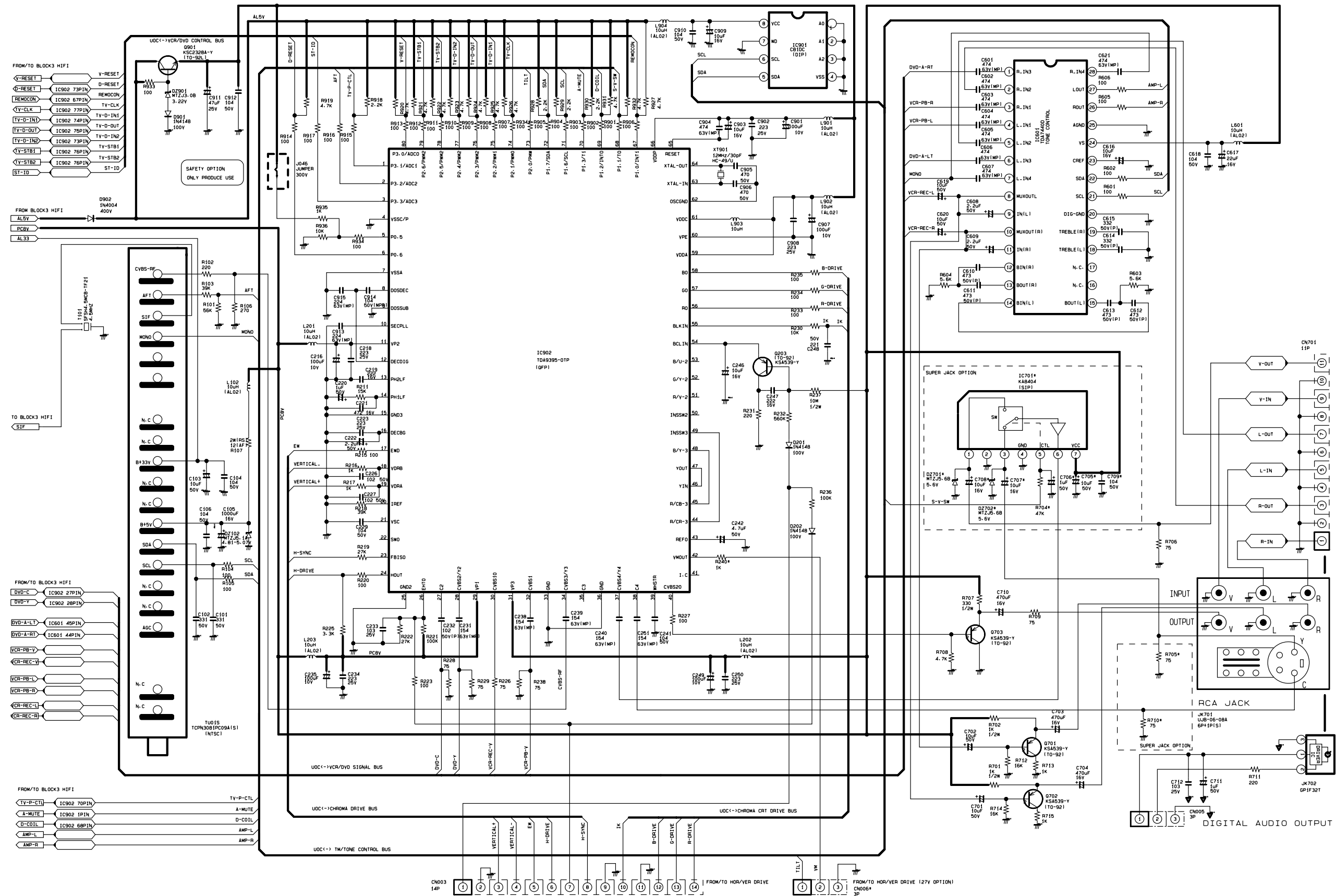




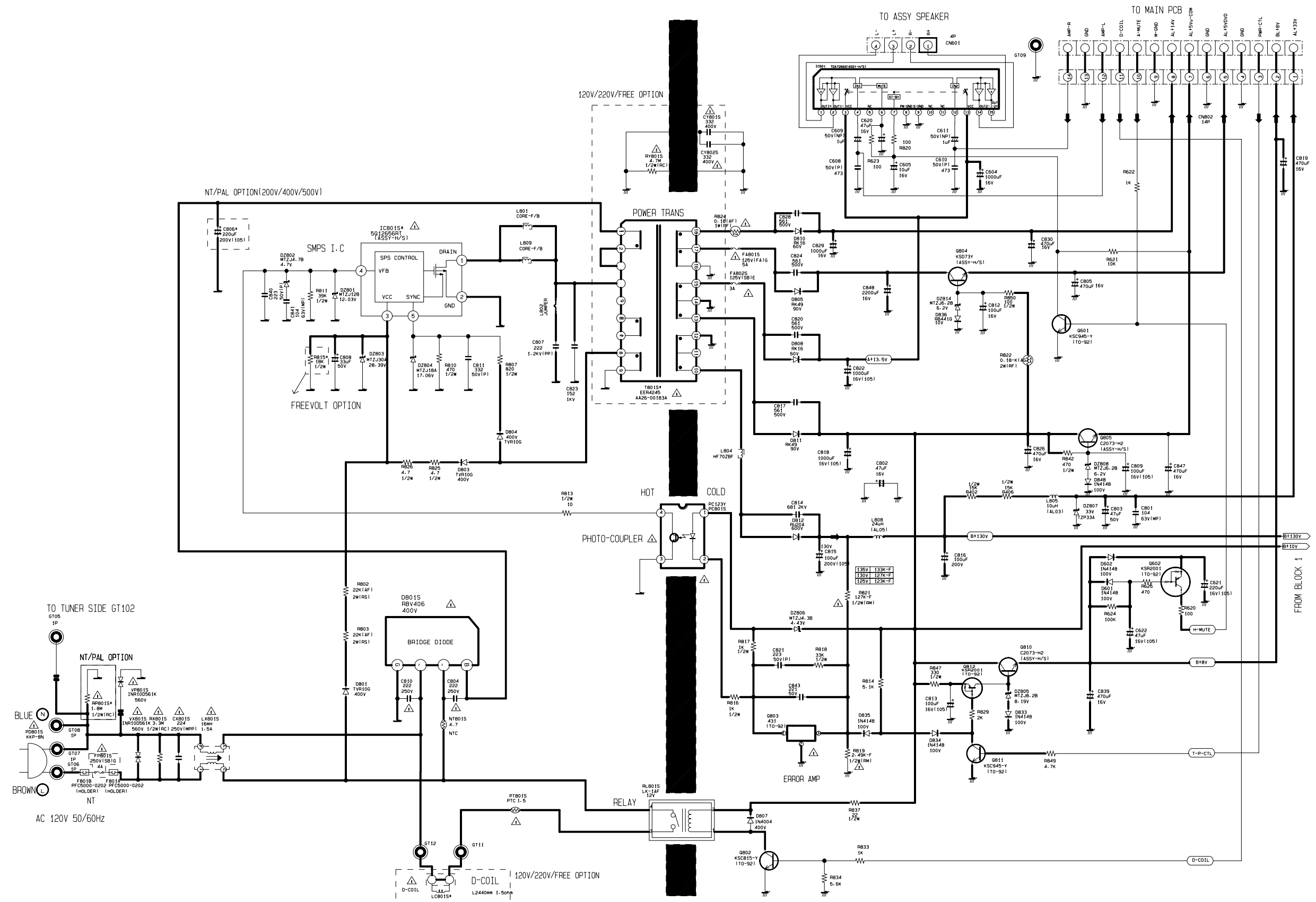




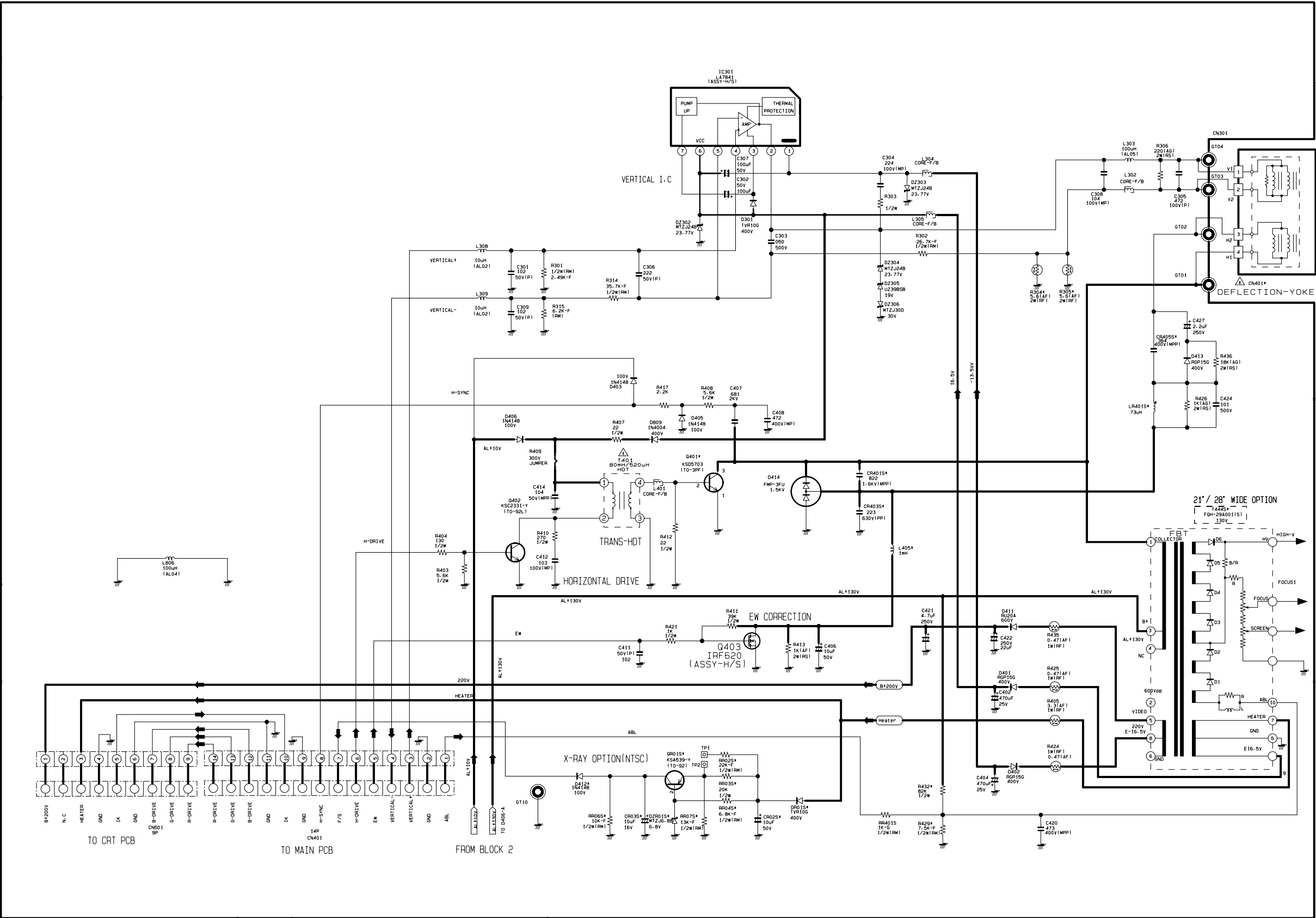
9-4 MAIN 4



## 9-5 POWER BLOCK

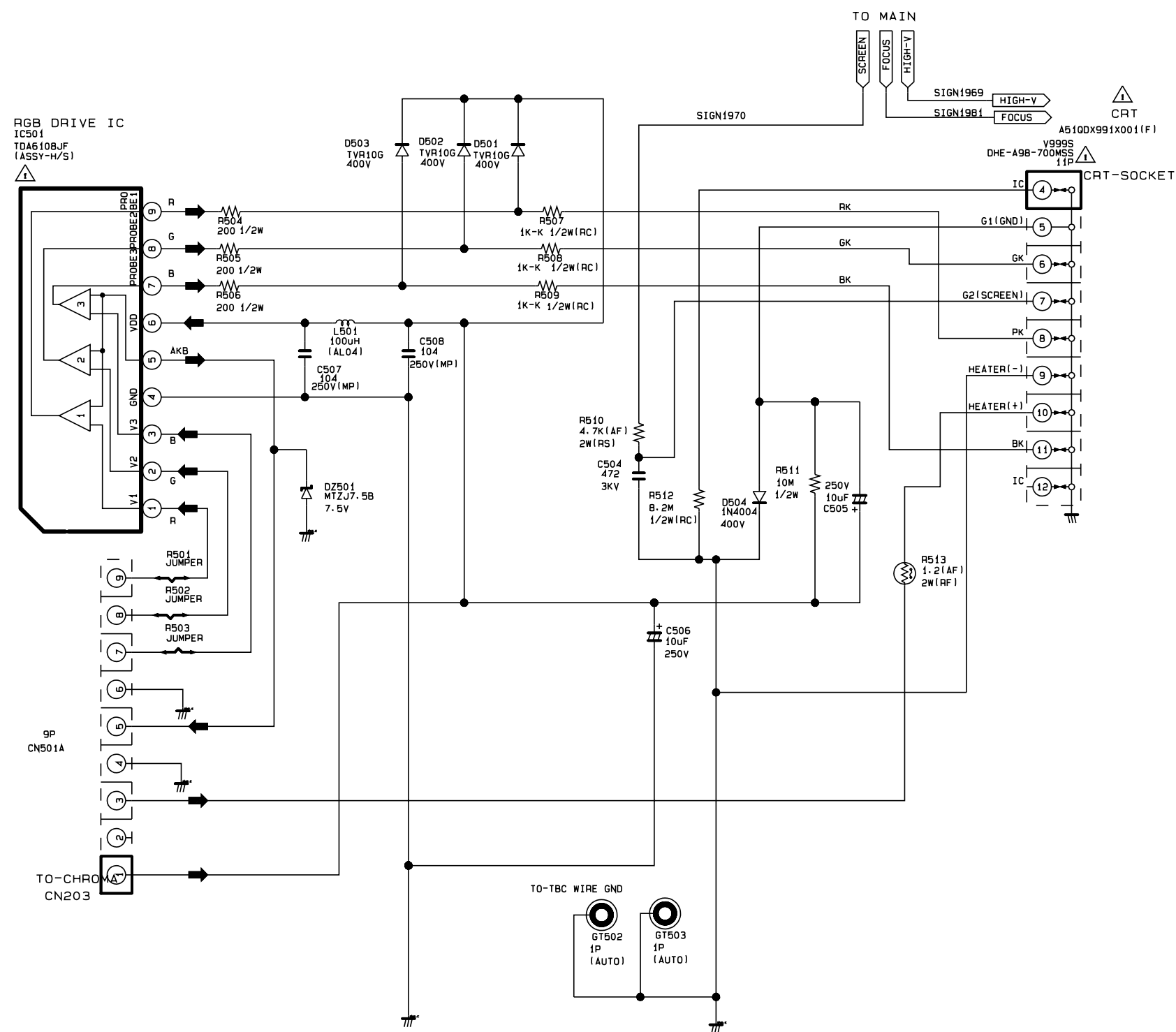


9-6 DEFLECTION BLOCK





9-8 CRT BLOCK





## 9-9 Main-Micom

